Karelia University of Applied Sciences
Bachelor of Business Administration
International Business

The potential of China’s free economic zones and their role in the global economy

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Thesis, November 2024

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Karelia AMMATTIKORKEAKOULU

THESIS
November 2024
Degree Programme in Bachelor of Business Administration

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Abstract

This thesis examines the development and role of free economic zones in China and their impact on the global economy, with a particular focus on China-Mongolia economic cooperation. The research provides a comprehensive analysis of China's FEZ system evolution from its inception in 1980 to 2024, exploring the theoretical foundations, regulatory frameworks, and current challenges facing these zones. Through extensive literature review and case study analysis, including the examination of the Altanbulag Free Trade Zone, the study demonstrates how FEZs have served as crucial instruments for China's economic transformation, attracting foreign direct investment, promoting export-oriented industrialization, and fostering technological innovation. The research highlights both the successes and limitations of China's FEZ model, particularly in addressing regional disparities, environmental sustainability, and the balance between foreign investment attraction and indigenous innovation promotion. The findings reveal that while FEZs have been instrumental in China's economic growth, their future effectiveness depends on their ability to adapt to changing global economic conditions and support the country's transition toward an innovation-driven economy. The thesis concludes with recommendations for leveraging FEZs to enhance economic cooperation between China and Mongolia while ensuring more equitable distribution of benefits and sustainable development practices.

LanguageEnglish

Pages 83
Appendices: 2
Pages of Appendices: 2

Keywords free economic zones, china's economic development, special economic zones, foreign direct investment, china-mongolia economic cooperation, industrial policy, economic integration, innovation policy, belt and road initiative, cross-border trade

Contents

1. Introduction

1.1 Research background and context

Free Economic Zones (FEZs) have emerged as a significant instrument in China's economic development strategy over the past four decades. Since the establishment of the first Special Economic Zones in 1980, China has progressively expanded and diversified its FEZ system, encompassing a wide array of zone types including Economic and Technological Development Zones, High-Tech Industrial Development Zones, and Free Trade Zones. These zones have played a pivotal role in attracting foreign direct investment, promoting export-oriented industrialization, and fostering technological innovation, thereby contributing significantly to China's rapid economic growth and integration into the global economy.

As China navigates the complexities of the 21st-century global economic landscape, characterized by technological disruption, shifting geopolitical dynamics, and increasing emphasis on sustainable development, the role and nature of its FEZ system are undergoing profound transformations. This research is situated at the intersection of economic geography, development economics, and international business, seeking to elucidate the evolving functions, challenges, and prospects of China's FEZs in the context of the country's transition towards a more innovation-driven and sustainable growth model.

1.2 Research purpose and objectives

The overarching purpose of this research is to provide a comprehensive and critical analysis of the development, current state, and future trajectory of China's FEZ system. Specifically, this study aims to:

1. Trace the historical evolution of China's FEZ system, identifying key milestones, policy shifts, and contextual factors that have shaped its development.
2. Evaluate the economic impact of FEZs on China's growth, foreign direct investment attraction, and technological advancement.
3. Analyze the current regulatory framework governing FEZs in China, including institutional arrangements, incentive structures, and policy implementation mechanisms.
4. Assess the challenges and opportunities facing China's FEZ system in light of changing domestic priorities and global economic trends.
5. Explore the potential for China's FEZ model to contribute to economic cooperation and development beyond its borders, with a particular focus on the Belt and Road Initiative.

1.3 Research questions

To achieve these objectives, the study addresses the following key research questions:

1. How has China's FEZ system evolved since its inception, and what factors have driven its transformation?
2. What has been the economic impact of FEZs on China's GDP growth, foreign trade, and technological innovation?
3. How does the current regulatory framework for FEZs in China balance national development objectives with the need for local autonomy and flexibility?
4. What are the primary challenges facing China's FEZ system, and how are policymakers addressing these issues?
5. To what extent can China's FEZ model be adapted or replicated in other developing countries, particularly within the context of the Belt and Road Initiative?

1.4 Significance of the research

This study contributes to the existing literature on special economic zones and their role in economic development by providing a comprehensive and up-to-date analysis of China's experience. By critically examining the successes, challenges, and future prospects of China's FEZ system, this research offers valuable insights for policymakers, scholars, and practitioners engaged in economic development strategies, international trade, and regional integration initiatives.

Moreover, as developing countries increasingly look to FEZs as a tool for attracting investment and promoting industrialization, the lessons drawn from China's experience can inform policy design and implementation in diverse contexts. The findings of this study also have implications for understanding the evolving nature of global production networks and the role of spatially delineated economic zones in shaping patterns of industrial agglomeration and regional development.

1.5 Thesis structure

This thesis is organized into six chapters:

Chapter 1 provides an introduction to the research, outlining its background, objectives, and significance.

Chapter 2 presents a comprehensive literature review on the theoretical foundations and global experiences of FEZs, situating China's approach within the broader context of zone-based development strategies.

Chapter 3 offers a detailed analysis of China's contemporary FEZ system, including its typology, geographical distribution, and regulatory framework.

Chapter 4 examines the economic impact of FEZs on China's growth, investment attraction, and technological advancement, drawing on both quantitative data and qualitative case studies.

Chapter 5 explores the challenges and opportunities facing China's FEZ system, discussing potential policy responses and future trajectories.

Chapter 6 concludes the thesis by synthesizing key findings, discussing their implications, and suggesting avenues for future research.

Through this structured approach, the thesis aims to provide a holistic and nuanced understanding of China's FEZ system, its role in the country's economic development, and its potential significance for other developing economies.

2. Theoretical foundations of free economic zones

2.1 Evolution of FEZ concepts

2.1.1 Early definitions and types

The roots of free economic zones can be traced back to ancient times when city-states and empires established specialized areas to facilitate trade and commerce. However, the modern concept of FEZs truly took shape in the latter half of the 20th century, particularly in the post-World War II era, as countries sought innovative strategies to stimulate economic growth and attract foreign investment (Chen, 1995).

The Shannon Free Zone in Ireland, established in 1959, is considered one of the most seminal examples of the modern FEZ paradigm. Created to revitalize the economically depressed region around Shannon Airport, which had experienced a decline in traffic due to the advent of jet aircraft technology, the Shannon Free Zone pioneered the concept of offering tax incentives and streamlined customs procedures to attract foreign investment, focusing on manufacturing and logistics enterprises (Farole, 2020). The success of this model served as a catalyst for the global proliferation of FEZs, as other nations sought to replicate Ireland's economic benefits.

During the 1960s and 1970s, there was a surge in the establishment of export processing zones in developing countries, particularly in Asia and Latin America.

These zones were strategically designed to promote export-oriented industrialization, leveraging the host nations' comparative advantages, such as abundant low-cost labor and strategic geographic locations. EPZs were typically situated near ports or airports and offered a comprehensive suite of incentives to attract foreign investment, including tax exemptions, streamlined regulatory frameworks, and access to a cost-effective workforce.

The Kaohsiung Export Processing Zone in Taiwan, established in 1966, and the Masan Free Export Zone in South Korea, which commenced operations in 1970, are prominent examples of this phenomenon (Chen, 2005). These early

adopters of the EPZ model played a crucial role in demonstrating the potential of FEZs to catalyze economic growth and development, paving the way for the subsequent proliferation of similar initiatives worldwide.

Region	Country	FEZ Name	Year Established
Asia	China	Shenzhen Special Economic Zone	1980
Asia	India	Kandla Free Trade Zone	1965
Asia	Malaysia	Penang Free Trade Zone	1972
North America	United States	Foreign-Trade Zones	1934
Europe	Spain	Barcelona Free Zone	1916
Europe	Poland	Pomeranian Special Economic Zone	2001

Table 2.1. Examples of free economic zones established in different regions and time periods

The 1980s and 1990s marked a watershed moment in the evolution of FEZs, as the concept gained increasing traction in developing countries seeking to attract foreign direct investment and promote export-led growth. The decision by China to establish special economic zones in 1980 represented a seminal event in the history of FEZs, with far-reaching implications for the global economic order. These groundbreaking zones, which included the cities of Shenzhen, Zhuhai, Shantou, and Xiamen, were conceived as laboratories for experimentation with market-oriented economic reforms and the attraction of foreign investment.

The success of China's Special Economic Zones (SEZs) merits a comprehensive examination. As posited by Zeng (2021), these zones transcended mere economic success, catalyzing a profound transformation of China's economic landscape. The evolutionary trajectory from the nascent experimental zones to an expansive network propelled China's transition from a predominantly agrarian economy to a preeminent global manufacturing force. What's particularly interesting is how other countries studied China's model. They weren't just copying it blindly though - they were adapting these lessons to their own unique circumstances and needs. The way China managed to use SEZs to gradually test market reforms while maintaining stability is pretty remarkable when you think about it.

The Middle East and North Africa's adoption of Free Economic Zones in the 80s and 90s tells an equally compelling story. Take the Jebel Ali Free Zone in Dubai - it's a perfect example of how these zones can completely transform a region's economic destiny. What started as a bold experiment in 1985 has become this massive hub that's helped turn Dubai from a small trading port into a global business center. Zeng (2021) points out something really interesting here: it wasn't just about building infrastructure - it was about creating an entire ecosystem that could attract international businesses. The way Dubai managed to leverage its geographic location and combine it with business-friendly policies in the free zone is a masterclass in economic development strategy.

The evolution of FEZs globally shows this fascinating trajectory that really reflects how the world economy has changed. Initially, these zones were pretty straightforward - they were mostly about manufacturing and exports, basically trying to attract factories with cheap labor. But here's where it gets interesting: as the global economy became more sophisticated, these zones had to adapt. They started focusing on things like high-tech industries, research and development, and even services. This shift wasn't just about changing what these zones did - it was about fundamentally rethinking their role in economic development. You can see this evolution really clearly in places like Singapore's science parks or South Korea's digital hubs.

2.1.2. Development of related concepts (SEZs, cross-national free trade areas)

The study of free economic zones has been a subject of significant interest among scholars and policymakers alike, given their potential to drive economic growth, attract foreign investment, and promote regional development. Aggarwal's (2010) seminal work on the impact assessment of FEZs in India marked a major milestone in this field, providing a comprehensive framework that highlighted both the positive outcomes, such as increased FDI and em-

ployment, and the potential negative consequences, including economic displacement and enclave formation.

In recent years, there has been a growing focus on analyzing the experiences of specific countries with FEZs. Gwosdz et al.'s (2020) study of Polish special economic zones is a prime example of this trend. By revealing significant regional variations in SEZ performance, their findings underscored the crucial role played by spatial factors in shaping the outcomes of these economic policy instruments.

This research not only contributed valuable insights to the existing knowledge base but also highlighted the need for a more nuanced and context-specific approach to evaluating the effectiveness of FEZs.

Farole's (2020) recent synthesis of global SEZ experiences represents another important contribution to the literature. His work emphasizes the potential of FEZs to drive economic transformation in developing countries, while also stressing the critical importance of generating positive spillovers and maintaining strong linkages with local economies. By advocating for more integrated approaches to SEZ planning and implementation, Farole's analysis offers valuable guidance for policymakers seeking to maximize the benefits of these economic policy tools.

The literature on FEZs has also been enriched by studies that adopt a more holistic and multidimensional approach to impact assessment. Pastusiak et al.'s (2018) evaluation of SEZ performance in Poland, for instance, moves beyond narrow measures of economic growth and job creation to consider the broader social and technological implications of these zones. Their findings, which suggest that the influence of Polish SEZs on innovation and technology transfer has been limited, underscore the need for a more comprehensive and nuanced understanding of the complex ways in which FEZs shape economic and social outcomes.

2.2 Historical development of FEZs

2.2.1 Early examples and models

The academic debate around FEZs has become increasingly nuanced and complex in recent years, and it raises some really important questions about economic development strategies. Critics make some valid points - there's definitely a risk that these zones can become isolated bubbles of prosperity that don't really benefit the wider economy. And yes, there have been cases where zones have led to questionable labor practices or environmental standards. But I think what's interesting is looking at why some zones succeed while others fail. The successful ones seem to have a few things in common: strong institutional support, clear strategic vision, and good integration with the local economy. The cases of China and the UAE show that when done right, these zones can be transformative. But - and this is crucial - success seems to depend heavily on how well these zones are integrated into broader economic development strategies.

The mixed results globally raise some fascinating questions about the future of FEZs. As manufacturing becomes more automated and services increasingly digital, how will these zones need to evolve? What role will they play in addressing challenges like climate change or inequality? These aren't just academic questions - they're crucial for policymakers trying to design the next generation of economic zones. Countries are increasingly looking at specializing their zones - whether it's in green technology, digital services, or biotechnology - and this specialization might be key to their continued relevance.

Building upon the historical overview provided earlier, I propose the following periodization of FEZ development:

1. First Generation (1950s-1970s): Early Export Processing Zones
    - Characterized by a focus on attracting labor-intensive, export-oriented manufacturing industries
    - Primarily located in developing countries, often near ports or airports

- Examples: Shannon Free Zone (Ireland), Kaohsiung Export Processing Zone (Taiwan), Masan Free Export Zone (South Korea)

2. Second Generation (1980s-1990s): Diversification and Expansion
    - Marked by a growing emphasis on attracting a wider range of industries, including services and high-tech sectors
    - Increased focus on regional development and economic diversification
    - Proliferation of FEZs in developing countries, particularly in Asia and Latin America
    - Examples: Special Economic Zones in China, Jebel Ali Free Zone (UAE), Export Processing Zones in Bangladesh
3. Third Generation (2000s-Present): Integration and Upgrading
    - Characterized by a shift towards more integrated and comprehensive FEZs, such as Eco-Industrial Parks and Free Trade Zones
    - Growing emphasis on promoting innovation, technology transfer, and higher value-added activities
    - Increased focus on sustainability, environmental protection, and social responsibility
    - Examples: Dubai Multi Commodities Centre (UAE), Panama Pacifico Special Economic Area (Panama), Sino-Singapore Tianjin Eco-City (China)

This proposed periodization is grounded in the observed patterns of FEZ development over time, taking into account the evolving objectives, strategies, and contexts of host countries.

Despite these ongoing debates, the historical record suggests that FEZs have played a significant role in shaping the global economic landscape over the past half-century. From the pioneering Shannon Free Zone in Ireland to the transformative SEZs of China and the dynamic free zones of the Middle East and North Africa, FEZs have demonstrated their potential to catalyze economic growth, attract foreign investment, and promote export-led development.

As the global economy continues to evolve and new challenges emerge, it is likely that FEZs will continue to adapt and evolve in response, maintaining their relevance as a key tool for economic policymakers around the world.

Free economic zones have emerged as a significant instrument for countries seeking to stimulate economic growth, attract foreign direct investment , and promote international trade. The proliferation of FEZs around the world has been accompanied by a growing body of literature examining their various forms, characteristics, and impacts. By synthesizing findings from systematic literature reviews, country-specific analyses, and cross-national comparative studies, this paper seeks to contribute to a clearer understanding of the hetero-geneous nature of FEZs and the factors shaping their development.

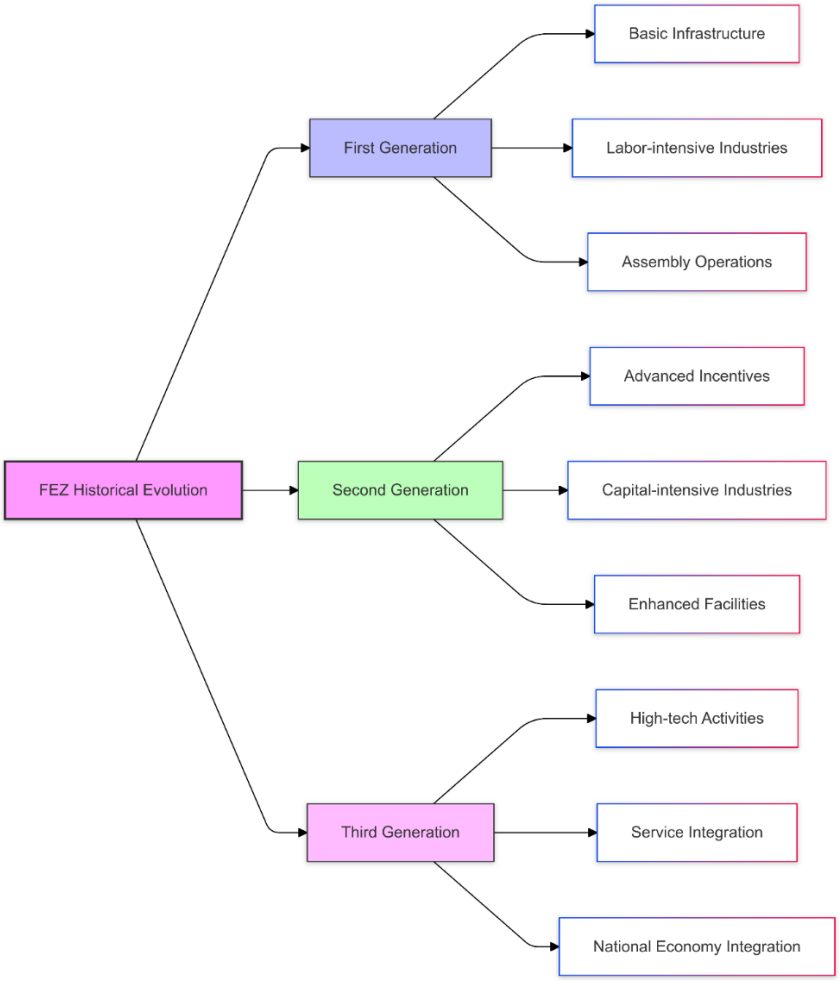

Fig. 2.1. ***FEZ Historical Evolution***

The concept of free economic zones encompasses a wide array of spatially delineated areas within a country's borders where business and trade laws differ from those in the rest of the nation (Zimenkov, 2005). These zones are designed to create a more liberal and efficient business environment to attract foreign direct investment , foster export-oriented growth, generate employment, and promote technological advancement (Farole & Akinci, 2011). FEZs come in various forms, such as special economic zones , export processing zones , free trade zones , and industrial parks or estates (Zeng, 2016).

Efforts to develop a unified typology of FEZs have led to several influential classifications. Hibbard (as cited in Alansary & Al-Ansari, 2023) identified three main types of FEZs based on their primary functions, while the United Nations Conference on Trade and Development (UNCTAD, as cited in Alansary & Al-Ansari, 2023) distinguished between three generations of FEZs, emphasizing their evolutionary nature and responsiveness to changing global economic conditions and industrial policies.

2.2.2 Global spread and diversification

Bost (as cited in Alansary & Al-Ansari, 2023) has proposed a four-part typology encompassing free trade zones, export processing zones, special economic zones, and industrial parks. This classification scheme distinguishes zones based on their spatial configuration, legal and regulatory frameworks, and economic objectives.

The diversity of FEZ classifications reflects the complex and multifaceted nature of these economic policy instruments. As Farole and Akinci (2011) note, the specific configuration and objectives of FEZs are shaped by a variety of factors, including the country's level of economic development, industrial structure, trade patterns, and institutional capacities.

The dynamic interplay between these factors and the global economic environment has led to the emergence of distinct regional models of FEZ development.

In East Asia, export-oriented industrialization strategies pursued by countries such as China, South Korea, and Taiwan have given rise to a particular form of FEZ characterized by large-scale, government-led initiatives aimed at attracting FDI, promoting technology transfer, and fostering the development of globally competitive industries (Zeng, 2016).

On the other hand, the FEZ experience in Latin America has been more varied, with a greater emphasis on free trade zones and export processing zones oriented towards labor-intensive, assembly-based industries (Farole & Akinci, 2011). While these zones have been important drivers of export growth and job creation, they have also faced criticism for their limited linkages with the domestic economy and their vulnerability to external shocks.

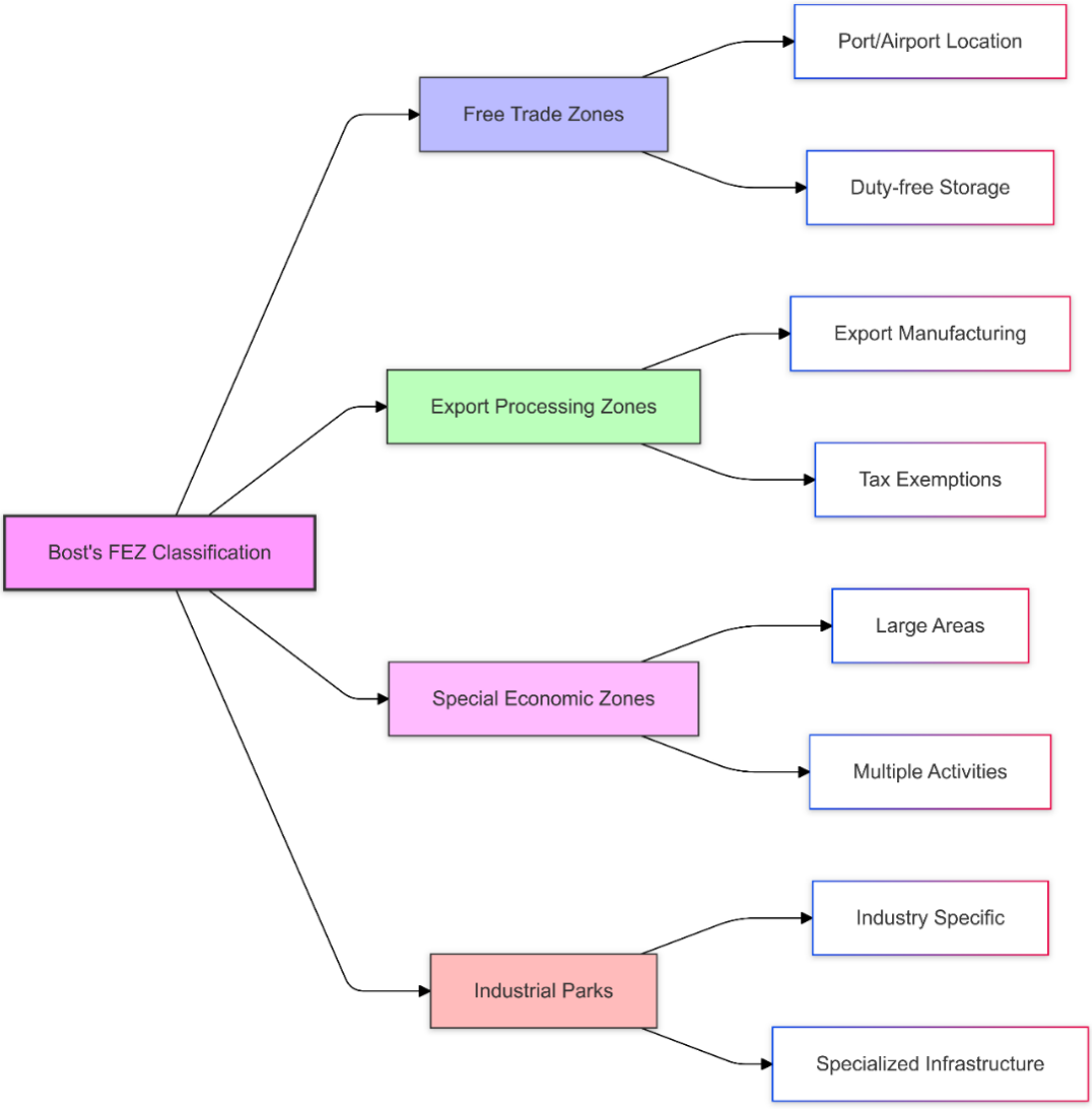

Fig. 2.2. ***Bost's FEZ Classification***

The development of Free Economic Zones in Eastern Europe and the former Soviet Union exemplifies the complex economic transformation from centrally planned to market-based systems, with Poland and Russia serving as notable case studies that demonstrate contrasting approaches and outcomes: while Poland successfully established 14 SEZs in the mid-1990s covering 12,000 hectares and offering comprehensive investor incentives (with the Katowice zone alone attracting €6 billion and creating 60,000 jobs), Russia's later entry into SEZ development in the mid-2000s has shown mixed results across its 38 zones, which, despite attracting 828 resident companies and over 500 billion rubles in investment by 2021, have faced varying degrees of success in different regions - this disparity highlights how the effectiveness of FEZs as policy instruments for attracting FDI and promoting regional development can vary significantly based on implementation timing, regulatory frameworks, and broader economic conditions.

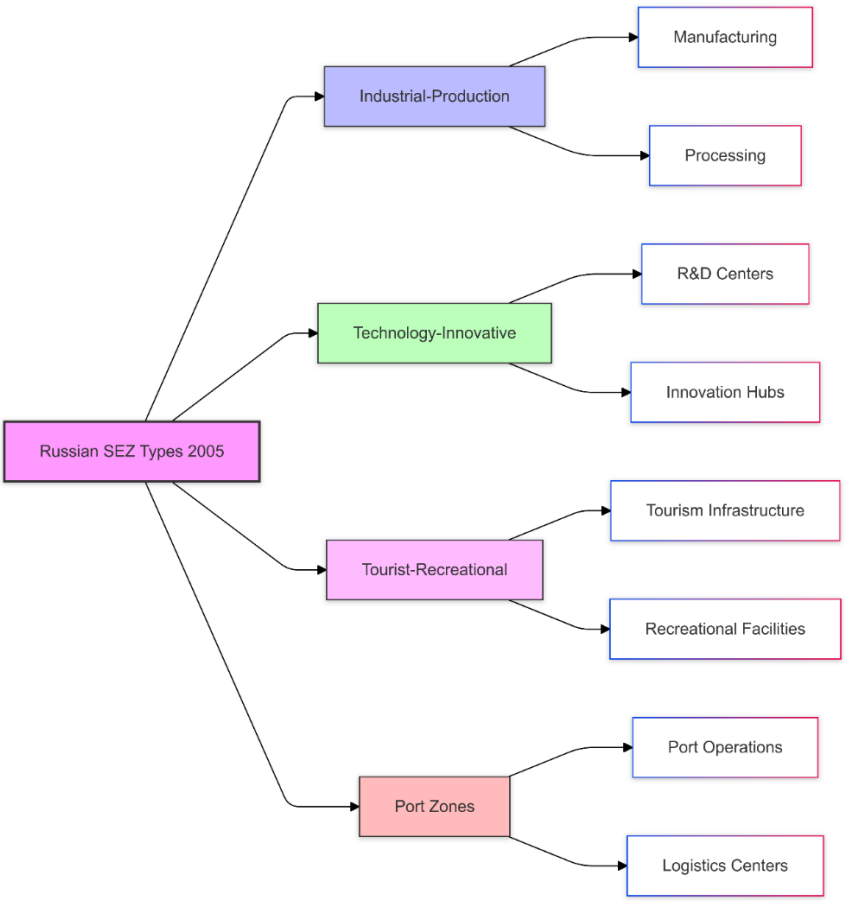

Fig. 2.3. ***Russian SEZ Types 2005***

The stories of FEZ development in Poland and Russia really show how important good planning and strong institutions are. According to Gwosdz et al. (2020), Poland's success came from having clear, consistent policies and getting local authorities actively involved in running these zones. Russia, on the other hand, has faced some real challenges. Maslikhina (2017) and Yankovskaya & Osipov (2021) point out that they've struggled with weak institutions, constantly changing policies, and poor coordination between federal and regional governments - it's kind of like trying to build a house without everyone agreeing on the blueprint.

When it comes to measuring how well these zones are doing, it's not just about counting investment dollars and jobs.

The Katowice Special Economic Zone in Poland is a real success story that deserves a closer look. Mikhalek and Jagello (2017) have documented how this zone hasn't just brought in money and jobs - it's completely transformed the local economy. They've done this really smart thing where they work closely with local schools and businesses, which has helped build up the skills of local workers and create stronger business networks. It's pretty impressive how they've managed to make everything work together so well.

Looking ahead, there are some big challenges these zones need to deal with. The COVID-19 pandemic has really shaken things up globally, as UNCTAD (2021) points out. Plus, there's this whole digital revolution happening, environmental concerns are growing, and the way businesses operate is changing fast. FEZs are going to have to adapt to stay relevant.

At home, success really comes down to having governments that can create the right environment for these zones to thrive. Zeng (2016) emphasizes that you need clear rules, transparent institutions, and good coordination. The experiences in Poland and Russia show that getting everyone involved - from local governments to private businesses and communities - is absolutely crucial.

These zones have come a long way from their early days as simple free trade areas.

2.3 Key characteristics and functions of FEZs

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These zones have come a long way from their early days as simple free trade areas. What's really fascinating is how they keep evolving to meet new challenges. Whether they succeed or fail seems to depend a lot on how well countries can build strong institutions and create the right policies.

The World Bank's report "Special Economic Zones: An Operational Review of Their Impacts" serves as a foundational document for analyzing the global experience with free economic zones in section 2.3. This comprehensive study provides a rigorous and systematic assessment of the factors driving SEZ performance in emerging economies and the impact of SEZ performance on economic growth in surrounding regions. The report's significance stems from its innovative approach to addressing the limitations of previous research on SEZs, which has often relied on case studies of a relatively small number of zones, focusing on the most successful examples. While yielding valuable insights, this approach has constrained the generalizability of findings and the ability to draw broader conclusions about the determinants and impacts of SEZ performance.

In contrast, the World Bank study leverages a novel methodology to conduct a systematic analysis across a large sample of 346 SEZs in 22 emerging market countries, enabling a more representative and nuanced understanding of the factors shaping SEZ outcomes. A key methodological innovation is the use of nightlights satellite imagery as a proxy for SEZ economic activity and performance, overcoming the lack of comparable cross-country data on individual SEZs that has been a major impediment to conducting broad-based empirical analysis. This approach builds on a growing body of economic research that has demonstrated the validity and utility of nightlights data as a proxy for economic activity, particularly in contexts where reliable statistical data may be lacking.

To complement the nightlights data, the authors compile a comprehensive dataset on the characteristics of the 346 SEZs included in the analysis. This dataset encompasses a range of variables capturing the key dimensions of SEZ programs, the specific attributes of individual zones, and the contextual factors shaping the regions and countries in which they are located. This rich dataset allows for a granular examination of the complex interplay of factors shaping

SEZ performance, from the design of the overarching policy framework to the specific characteristics of individual zones and their local contexts.

2.4 FEZs in the context of global economic trends

The analysis further illuminates the crucial role of external factors in shaping SEZ outcomes, particularly emphasizing the significance of regional economic fundamentals such as market accessibility, established industrial infrastructure, and labor force availability. While the research indicates that SEZs generally do not achieve exceptional economic performance relative to their national contexts, it does reveal meaningful localized spillover effects, with surrounding regions experiencing accelerated growth within a roughly 50-kilometer radius - though these effects diminish rapidly beyond this geographic threshold. This spatial dimension of SEZ impact offers valuable insights for policymakers considering the strategic placement and role of zones within broader regional development frameworks, while simultaneously highlighting the limitations of SEZs as universal catalysts for economic transformation in disadvantaged regions. Moreover, these findings suggest that successful SEZ implementation requires a more nuanced understanding of regional economic dynamics and a more realistic assessment of zones' potential to drive economic development. The research thus points toward the need for a more sophisticated approach to SEZ planning that takes into account both the inherent limitations of zones as development tools and the critical importance of regional economic context in shaping their success or failure.

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SEZ performance, from the design of the overarching policy framework to the specific characteristics of individual zones and their local contexts.

Table 2.2 provides an overview of the dataset's coverage:

Dimension	**Variables**	**Coverage**
SEZ program factors	Incentive package, eligibility requirements, program set-up	Laws, regulations, and policies applicable to SEZs in each country
SEZ-specific factors	Size, years operating, operator type, industry focus, location, services and infrastructure	346 individual SEZs across 22 countries
Contextual factors	Region and country characteristics including market access, income levels, human capital, population density	Sub-national regions and countries hosting the 346 SEZs

Table 2.2. CIIP Dataset on Special Economic Zones

Drawing upon a robust empirical foundation, this analysis yields several profound insights that significantly advance our understanding of Special Economic Zone (SEZ) dynamics and their multifaceted impacts. The findings fundamentally challenge several longstanding assumptions about SEZ performance, revealing that these zones typically mirror rather than exceed their national economic trajectories - a discovery that emphasizes the critical importance of broader economic contexts in determining zone outcomes. Furthermore, the analysis demonstrates that SEZs often struggle with long-term sustainability, exhibiting an inverted U-shaped performance curve characterized by initial robust growth followed by deceleration as zones mature and their competitive advantages, such as tax incentives and low-cost labor pools, gradually diminish. This pattern of performance trajectory raises important questions about the long-term viability of SEZs as sustainable economic development tools and challenges policymakers to reconsider traditional approaches to zone management and evolution.

The research presents a particularly striking revelation regarding the relationship between SEZ design features and performance outcomes, demonstrating that conventional program elements - including incentive structures, investor eligibility criteria, and governance frameworks - play a surprisingly limited role in determining success. Instead, zone performance appears to be predominantly

influenced by fundamental characteristics such as size and technological intensity, with larger zones typically outperforming smaller ones due to scale economies and agglomeration effects. Notably, contrary to prevailing wisdom, lower-tech, labor-intensive zones generally demonstrate superior growth rates compared to their high-tech counterparts, challenging the assumed superiority of technology-intensive development strategies.

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To further contextualize these findings, the report also includes a systematic review of the World Bank's own operational experience with SEZs. This portfolio review, summarized in Tables 2.3. and 2.4, reveals a notable shift in the nature of Bank-supported SEZ projects over time.

Category	**Number of projects**	**Percent of total**
Pre-1996 projects		
Achieved objectives	9	64%
Did not achieve objectives	5	36%
Total	14	100%

Post-1996 projects		
Achieved objectives	5	45%
Did not achieve objectives	6	55%
Total	11	100%
All projects		
Achieved objectives	14	56%
Did not achieve objectives	11	44%
Total	25	100%

Table 2.3. Performance of World Bank SEZ Projects

Rating	**Pre-1996 projects**	**Post-1996 projects**	**All projects**
High	3	0	3
Substantial	6	1	7
Modest	1	8	9
Negligible	4	2	6
Total	14	11	25

Table 2.4. Efficiency Ratings for World Bank SEZ Projects

Earlier projects, concentrated in the pre-1996 period, tended to focus narrowly on SEZ development, with components and objectives directly tied to the establishment and growth of specific zones. In contrast, more recent projects have adopted a broader approach, situating SEZ interventions within a more holistic framework of support for private sector development and economic competitiveness. While this evolving approach reflects an appreciation for the importance of embedding SEZs within a conducive broader policy and economic environment, it has also often entailed greater complexity in project design and implementation.

The World Bank's report offers several operational lessons that resonate with the findings of the econometric analysis, including the importance of carefully assessing the economic fundamentals and competitiveness potential of regions where SEZs are being considered, the need for a sound legal and regulatory framework for SEZs that is fully integrated with the broader investment climate, and the criticality of effective public-private coordination and partnerships in SEZ development and management.

Overall, the report provides a nuanced and empirically grounded assessment of the potential and limitations of SEZs as tools for economic development in emerging economies. While highlighting the catalytic role that zones can play in

spurring local economic growth, the report also underscores the challenges of sustaining zone dynamism over time and the importance of the broader economic and institutional context in shaping SEZ outcomes. As such, it injects a note of realism into the often heated debate over the efficacy of SEZs, challenging simplistic narratives that portray zones as either a panacea for economic transformation or a costly distraction from broader reforms.

For policymakers and practitioners grappling with the challenges of industrial development and economic transformation, the report offers valuable lessons, suggesting that while SEZs can be a potent tool for catalyzing local growth and fostering global integration, they are not a substitute for sound economic fundamentals and a conducive overall investment climate. Successful SEZs are those that leverage existing comparative advantages and industrial capabilities, rather than attempting to create them from scratch. Moreover, the report highlights the importance of proactive efforts to foster linkages and spillovers between SEZs and the broader economy, which can be enhanced through targeted policies and investments in areas such as supplier development, skills upgrading, and technology transfer.

Finally, the report underscores the need for a dynamic and adaptive approach to SEZ policy and management, as the global economy evolves and new technologies and business models emerge, intensifying the competitive pressures on SEZs. Sustaining the relevance and impact of zones over the long term will require a commitment to continuous innovation, upgrading, and reform.

In conclusion, the World Bank's analysis of SEZs provides a rich and nuanced evidence base to inform economic policies and strategies across the developing world, shedding light on the complex interplay of factors shaping SEZ performance and impact, and helping to ground the often polarized debate over these instruments in sound empirical analysis.

3. China's FEZ system: current state and development

3.1 Overview of China's contemporary FEZ system

3.1.1 Types and distribution of FEZs in China

China's free economic zones have undergone a remarkable evolution since their inception in the late 1970s, playing a pivotal role in the country's economic transformation and integration into the global economy.

The establishment of the first four Special Economic Zones in Shenzhen, Zhuhai, Shantou, and Xiamen in 1980 marked a significant shift in China's economic policy, as the country began to embrace market-oriented reforms and open up to foreign investment (Ministry of Commerce of the People's Republic of China, 2020). These initial SEZs served as laboratories for economic experimentation, allowing the Chinese government to test new policies and approaches in a controlled environment before expanding them to other parts of the country.

Over the past four decades, China's FEZ system has grown substantially in both scale and scope, encompassing a wide range of zone types and locations throughout the country.

As of 2020, there are over 2,500 FEZs in China, including SEZs, Economic and Technological Development Zones , High-Tech Industrial Development Zones , Free Trade Zones , and other types of specialized zones (World Bank, 2020). These zones have played a critical role in attracting foreign direct investment , promoting export-oriented industrialization, and supporting the development of key sectors such as manufacturing, services, and technology.

One of the most notable features of China's contemporary FEZ system is its hierarchical structure, with zones established at the national, provincial, and local levels. National-level zones, such as the SEZs and ETDZs, are approved by the State Council and benefit from the highest level of policy support and institutional autonomy.

Zone Type	Number of Zones	Level of Approval	Key Features
Special Economic Zones	7	National	Comprehensive reforms, preferential policies, institutional autonomy, focus on export-oriented industries
Economic and Technological Development Zones	219	National	Focus on attracting FDI, promoting industrial upgrading, and developing modern services
High-Tech Industrial Development Zones	168	Provincial	Focus on promoting high-tech industries, innovation, and technology transfer
Free Trade Zones	21	Local	Focus on trade facilitation, financial services, and logistics, with a greater emphasis on opening up the services sector

Table 3.1. ***Key types of free economic zones in China (Sources: Ministry of Commerce of the People's Republic of China, 2020; National Development and Reform Commission of the People's Republic of China, 2020)***

China's Free Economic Zone system has undergone a significant transformation, with an increased emphasis on promoting industrial upgrading and technological innovation. This strategic shift is a reflection of China's progression in its economic development trajectory. In the nascent stages of the FEZ system, the primary objective was to attract labor-intensive, export-oriented manufacturing industries, capitalizing on China's comparative advantage in low-cost labor.

However, as the country has advanced economically, the focus has gradually shifted towards fostering the development of higher value-added industries, such as advanced manufacturing, services, and technology (State Council of the People's Republic of China, 2019). Provincial-level zones, such as the HIDZs, are approved by provincial governments and are subject to a mix of national and provincial policies. Local-level zones, such as the FTZs, are established by municipal or county-level governments and are subject to a range of local policies and regulations (National Development and Reform Commission of the People's Republic of China, 2020).

The emergence of specialized zones, namely the High-Tech Industrial Development Zones and the Free Trade Zones , epitomizes this evolutionary trend.

HIDZs are strategically designed to promote the growth of high-tech industries, including information technology, biotechnology, and new materials. These zones provide targeted support for research and development, innovation, and technology transfer, creating an ecosystem conducive to technological advancement. Conversely, FTZs are primarily focused on facilitating trade, financial services, and logistics, with a particular emphasis on liberalizing the services sector to attract foreign investment (General Administration of Customs of the People's Republic of China, 2020). This diversification of FEZs reflects China's commitment to embracing a more nuanced and targeted approach to economic development.

Moreover, China's FEZ system has witnessed a growing emphasis on regional integration and coordination. In the early stages of FEZ development, zones were often established in a relatively ad hoc manner, with limited consideration for their broader regional context. This approach aims to promote economic integration, reduce regional disparities, and support the development of key industrial clusters (National Development and Reform Commission of the People's Republic of China, 2018). By adopting a more holistic and regionally integrated approach, China seeks to optimize the allocation of resources and foster synergies between FEZs and their surrounding regions.

3.1.2 Key characteristics and functions

The establishment of cross-border economic cooperation zones, such as the China-Kazakhstan International Border Cooperation Center and the China-Vietnam (Shenzhen-Haiphong) Economic and Trade Cooperation Zone, exemplifies this regional focus. These zones are strategically positioned to promote economic integration and trade between China and its neighboring countries, leveraging the complementary strengths and resources of each region (Ministry of Commerce of the People's Republic of China, 2019). By fostering cross-border collaboration and facilitating the flow of goods, services, and invest-

ments, these zones play a crucial role in strengthening regional economic ties and promoting mutually beneficial growth.

In conclusion, the evolution of China's FEZ system reflects the country's adaptability and responsiveness to changing economic realities. As China has progressed in its development journey, its FEZs have evolved from primarily attracting labor-intensive industries to fostering high-tech innovation and promoting regional integration. This strategic shift demonstrates China's commitment to embracing a more sophisticated and sustainable approach to economic growth, one that prioritizes technological advancement, regional coordination, and cross-border collaboration. As China continues to refine its FEZ system, it is poised to play an increasingly pivotal role in shaping the country's economic landscape and driving its long-term development objectives.

Cooperation Zone	**Partner Country**	**Key Industries**
China-Kazakhstan International Border Cooperation Center	Kazakhstan	Trade, logistics, tourism, agricultural processing
China-Vietnam (Shenzhen-Haiphong) Economic and Trade Cooperation Zone	Vietnam	Electronics, machinery, textiles, food processing
China-Belarus Industrial Park	Belarus	Electronics, machinery, chemicals, pharmaceuticals
China-Egypt Suez Economic and Trade Cooperation Zone	Egypt	Textiles, machinery, electronics, construction materials

Table 3.2.. Examples of cross-border economic cooperation zones (Sources: Ministry of Commerce of the People's Republic of China, 2019; National Development and Reform Commission of the People's Republic of China, 2018)

The success of China's FEZ system in attracting FDI and promoting export-oriented growth has been a key driver of the country's economic transformation over the past four decades. According to data from the Ministry of Commerce, FDI inflows into China's FEZs have grown from just over $1 billion in 1980 to $138.3 billion in 2019, accounting for nearly 40% of the country's total FDI inflows (Ministry of Commerce of the People's Republic of China, 2020). Similarly, exports from China's FEZs have increased from less than $100 million in 1980 to over $690 billion in 2019, representing approximately 37% of the country's

total exports (General Administration of Customs of the People's Republic of China, 2020).

Year	FDI Inflows ($ billion)	Exports ($ billion)
1980	1.1	0.1
1990	3.5	8.1
2000	40.7	119.4
2010	105.7	479.2
2019	138.3	690.2

Table 3.3. FDI inflows and exports in China's FEZs, 1980-2019 (Sources: Ministry of Commerce of the People's Republic of China, 2020; General Administration of Customs of the People's Republic of China, 2020)

While China's FEZ model has achieved remarkable success (exemplified by regions like Shenzhen transforming from fishing villages into global tech hubs), significant challenges persist. The World Bank (2020) highlights a critical concern: these zones have inadvertently deepened regional inequalities, particularly between the prosperous coastal provinces and the less developed interior regions. For instance, while the Pearl River Delta's FEZs have attracted massive FDI and created millions of jobs, provinces like Gansu and Yunnan have struggled to replicate this success, leading to what economists call the "coastal-inland development gap."

The United Nations Conference on Trade and Development (2019) identifies another concerning trend - the creation of what they term "economic enclaves." This phenomenon is particularly evident in cases where FEZs operate as isolated pockets of prosperity with minimal integration into the local economy. The International Labour Organization (2018) further complicates this picture by pointing out environmental and social challenges, noting how competition between local governments for investment has sometimes led to compromised labor and environmental standards - a trend particularly visible in manufacturing-focused zones where pressure to reduce costs has occasionally resulted in substandard working conditions.

Chinese government's response, as outlined in their 13th Five-Year Plan and Made in China 2025 strategy (State Council of the People's Republic of China, 2020), shows a strategic pivot toward addressing these challenges. Their ap-

proach now emphasizes quality over quantity, focusing on sustainable development, innovation-driven growth, and improved integration with local economies. This shift is exemplified by new initiatives like the Xiong'an New Area, which explicitly prioritizes green development and technological innovation, representing a potential new model for FEZ development that could address many of the traditional system's limitations.

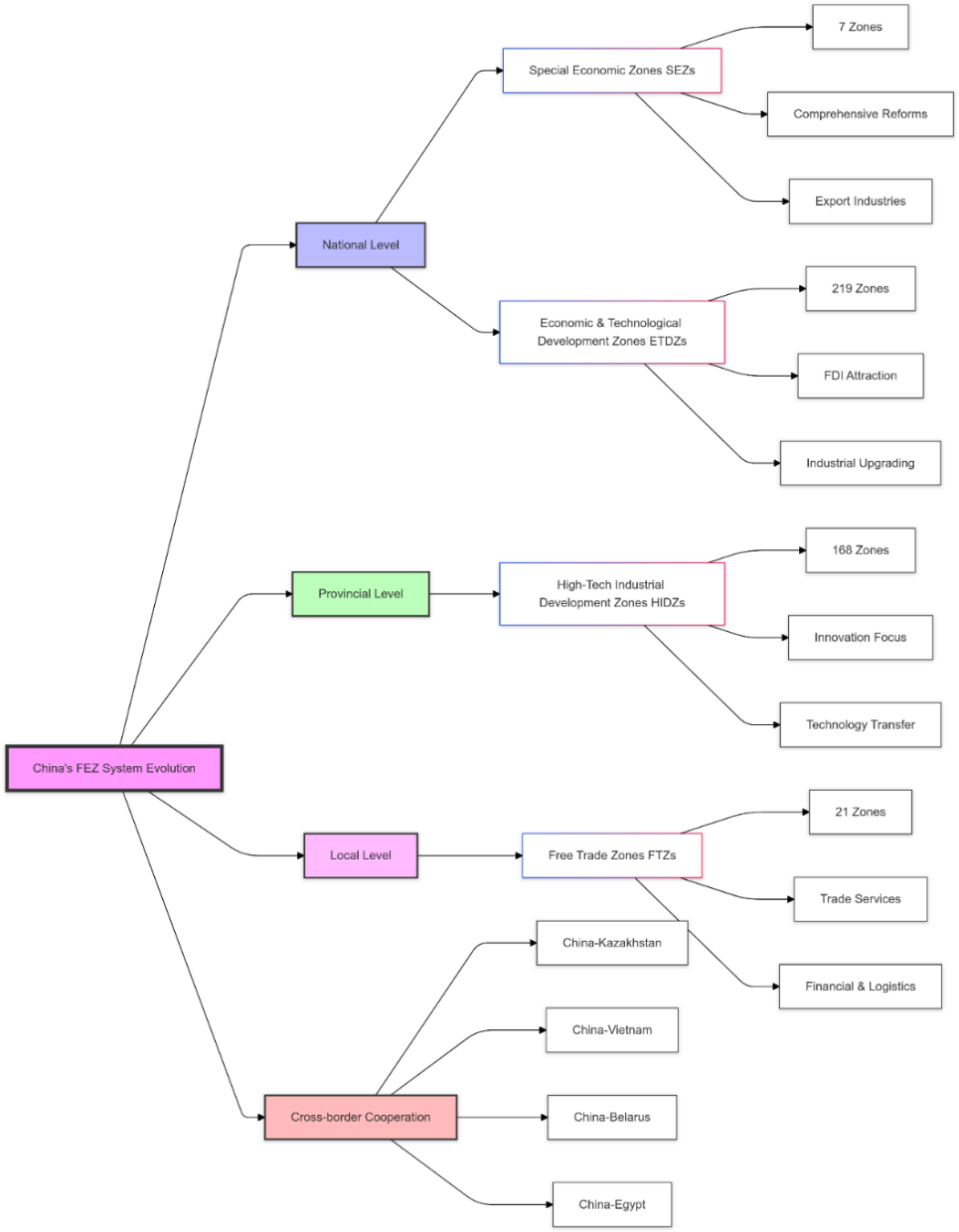


Fig. 3.1. China's FEZ System Evolution

This has included efforts to promote industrial upgrading and technological innovation within FEZs, such as the establishment of innovation demonstration zones and the development of specialized industrial clusters. There has also

been a greater focus on promoting environmental sustainability and social welfare within FEZs, such as the adoption of stricter environmental standards and the improvement of working conditions and social security for workers (Ministry of Ecology and Environment of the People's Republic of China, 2020).

China's contemporary FEZ system represents a complex and dynamic landscape, shaped by a range of economic, political, and social factors. While FEZs have played a crucial role in driving China's economic transformation and integration into the global economy, they also face significant challenges and limitations, particularly in terms of regional disparities, limited spillover effects, and environmental and social sustainability. As China continues to pursue its goal of becoming a high-income, innovation-driven economy, the role and nature of its FEZ system will likely continue to evolve. This may involve a greater emphasis on promoting higher-quality growth, innovation, and sustainability within FEZs, as well as efforts to promote greater regional integration and coordination. Ultimately, the success of China's FEZ system in supporting the country's long-term economic and social development will depend on the ability of policymakers to balance these competing objectives and navigate the complex challenges and opportunities presented by the global economy.

3.1.3 Comparison with global FEZ models (EU, NAFTA)

In the EU, FEZs have been established as part of a broader strategy to promote economic convergence and cohesion among member states. The EU's FEZ model is characterized by a strong emphasis on regional development, particularly in less developed areas, and a focus on fostering innovation and knowledge-based industries. NAFTA FEZ model has faced criticism for its limited linkages with the domestic economy and its reliance on low-wage, low-skill labor. In recent years, there has been a growing recognition of the need to upgrade the technological capabilities and value-added activities within these zones, as exemplified by Mexico's efforts to promote the development of advanced manufacturing clusters.

China's FEZ system encompasses a wide range of zone types, from comprehensive SEZs to specialized industrial parks, and covers a much larger geographic area compared to the more limited number of zones in the EU and NAFTA regions (Zeng, 2021). This has allowed China to experiment with different FEZ models and tailor them to the specific needs and conditions of different regions and industries.

Furthermore, China's FEZ system has been more closely integrated with the country's broader economic development strategies, such as the Belt and Road Initiative (BRI) and the Made in China 2025 plan. The establishment of cross-border economic cooperation zones along the BRI corridors, for example, demonstrates how China is using FEZs as a tool for promoting regional economic integration and expanding its economic influence (Ministry of Commerce of the People's Republic of China, 2019).

Despite these differences, there are also some common challenges faced by FEZs in China, the EU, and the NAFTA region. One such challenge is the need to ensure that the benefits of FEZ development are more evenly distributed and that the zones contribute to inclusive and sustainable economic growth (Farole & Akinci, 2011). This requires a greater focus on promoting linkages between FEZs and local economies, investing in human capital development, and addressing potential negative externalities such as environmental degradation and labor rights issues.

Another shared challenge is the increasing competition among countries and regions to attract FDI through FEZs, which can lead to a "race to the bottom" in terms of incentives and regulatory standards (Farole, 2020). To mitigate this risk, there is a growing recognition of the need for international cooperation and coordination in FEZ development, as well as the adoption of best practices and standards for responsible investment and sustainable development.

In conclusion, while China's FEZ system has evolved within a distinct political and economic context, it shares some common features and challenges with other global FEZ models, particularly those in the EU and NAFTA regions, China's FEZ model also exhibits unique characteristics, such as its scale, scope, and close integration with broader economic development strategies.

As China continues to refine its FEZ system and adapt to the changing global economic landscape, there are opportunities for mutual learning and collaboration with other countries and regions. By sharing experiences and best practices, and by working together to address common challenges, China and its global partners can harness the potential of FEZs to promote sustainable and inclusive economic growth in an increasingly interconnected world. The comparative analysis of China's FEZ model with those of the EU and NAFTA regions highlights the importance of context-specific approaches to FEZ development, as well as the need for continuous adaptation and innovation in response to evolving economic realities.

As policymakers and practitioners around the world seek to leverage FEZs as tools for economic transformation and regional integration, the lessons learned from China's experience, as well as those of other countries and regions, can provide valuable insights and guidance.

However, it is crucial to recognize that the success of FEZs is not guaranteed and that their effectiveness depends on a range of factors, including the quality of infrastructure, the availability of skilled labor, the strength of institutions, and the overall business environment (World Bank, 2017). Moreover, the proliferation of FEZs around the world has led to increased competition for investment, making it more challenging for countries to differentiate themselves and attract high-quality FDI (Farole, 2020).

To maximize the benefits of FEZs and mitigate potential risks, policymakers must adopt a holistic and strategic approach to FEZ development, one that takes into account the specific strengths and weaknesses of their economies, the changing demands of global markets, and the needs and aspirations of local communities. This requires a commitment to ongoing learning, experimentation, and adaptation, as well as a willingness to engage in dialogue and collaboration with a wide range of stakeholders, including businesses, civil society organizations, and international partners.

China's Free Economic Zones have played a pivotal role in the country's remarkable economic transformation over the past four decades. The establishment of these zones has been a key driver of China's rapid industrialization,

export-led growth, and integration into the global economy. By offering a range of incentives, preferential policies, and streamlined administrative procedures, FEZs have successfully attracted substantial foreign direct investment, fostered the development of globally competitive industries, and contributed significantly to China's overall economic growth and development.

One of the most notable impacts of FEZs on China's economy has been their contribution to GDP growth and foreign trade expansion. As highlighted in Table 3.3, FDI inflows into China's FEZs have grown exponentially from just over $1 billion in 1980 to $138.3 billion in 2019, accounting for nearly 40% of the country's total FDI inflows (Ministry of Commerce of the People's Republic of China, 2020). Similarly, exports from China's FEZs have increased from less than $100 million in 1980 to over $690 billion in 2019, representing approximately 37% of the country's total exports (General Administration of Customs of the People's Republic of China, 2020). These figures demonstrate the critical role that FEZs have played in driving China's export-oriented growth model and facilitating its integration into global value chains.

Beyond their contribution to GDP and foreign trade, FEZs have also been instrumental in generating employment opportunities and promoting technology transfer and innovation. The labor-intensive manufacturing industries that initially dominated China's FEZs created millions of jobs, absorbing surplus rural labor and contributing to the country's rapid urbanization process. As FEZs have evolved and upgraded over time, they have increasingly focused on attracting high-tech industries and fostering indigenous innovation. The establishment of specialized zones, such as High-Tech Industrial Development Zones and the Lin-gang Special Area, has created ecosystems conducive to technological advancement, R&D, and the commercialization of new technologies (UNCTAD, 2023).

However, the impact of FEZs on China's economic growth has not been without challenges and limitations. As noted by the World Bank (2020) and other international organizations, the rapid development of FEZs has contributed to regional disparities, particularly between the more prosperous coastal regions and the less-developed inland provinces. The phenomenon of "economic enclaves"

(UNCTAD, 2019), where FEZs operate as isolated pockets of prosperity with limited spillovers to the local economy, has raised concerns about the sustainability and inclusiveness of FEZ-driven growth.

Moreover, the intense competition among local governments to attract FDI through FEZs has sometimes led to a "race to the bottom" in terms of environmental and labor standards (International Labour Organization, 2018), highlighting the need for more balanced and sustainable approaches to FEZ development.

To address these challenges, the Chinese government has recently emphasized the importance of promoting higher-quality growth, innovation, and sustainability within FEZs, as evidenced by initiatives like the Xiong'an New Area and the focus on green development and technological upgrading in the 13th Five-Year Plan and Made in China 2025 strategy (State Council of the People's Republic of China, 2020). These efforts aim to ensure that the benefits of FEZ-driven growth are more evenly distributed and that FEZs contribute to the country's long-term economic and social development objectives.

Case studies of specific FEZs, such as the Shenzhen Special Economic Zone and the Shanghai Free Trade Zone, provide valuable insights into the transformative impact that these zones can have on local and regional economies. The Shenzhen SEZ, established in 1980, has been a pioneering example of how FEZs can catalyze rapid economic growth and industrial transformation. Over the past four decades, Shenzhen has evolved from a small fishing village to a global technology hub, home to innovative companies like Huawei, ZTE, and Tencent. The success of the Shenzhen SEZ has been attributed to a combination of factors, including its strategic location, favorable policies, and strong emphasis on innovation and entrepreneurship (Zeng, 2016).

Similarly, the Shanghai Free Trade Zone, established in 2013, has been at the forefront of China's efforts to liberalize its services sector and promote financial innovation. The FTZ has introduced a range of reforms aimed at streamlining administrative procedures, facilitating cross-border trade and investment, and fostering the development of new industries, such as cross-border e-commerce and financial technology (fintech) (Chen & Pu, 2018). The success of the

Shanghai FTZ has led to the establishment of similar zones in other parts of the country, demonstrating the potential for FEZs to serve as laboratories for economic reform and policy experimentation

Ultimately, the comparative analysis of China's FEZ model with those of other regions underscores the importance of viewing FEZs not as a panacea for economic development, but rather as one tool among many in a broader toolkit of policies and strategies for promoting sustainable and inclusive growth. By carefully designing, implementing, and managing FEZs in a way that aligns with national and regional development priorities, and by ensuring that the benefits of FEZ development are widely shared, countries can harness the potential of these zones to catalyze economic transformation and improve the lives of their citizens.

Key Takeaways:

1. China's FEZ model has evolved within a unique political and economic context, resulting in distinct characteristics that set it apart from other global FEZ models, such as those in the EU and NAFTA regions (Zeng, 2016; Farole & Akinci, 2011).
2. While China's FEZ system shares some common features and challenges with other global models, it also exhibits unique characteristics, such as its scale, scope, and close integration with broader economic development strategies, such as the Belt and Road Initiative (BRI) and the Made in China 2025 plan (Zeng, 2021; Ministry of Commerce of the People's Republic of China, 2019).
3. The comparative analysis of China's FEZ model with those of other regions highlights the importance of context-specific approaches to FEZ development, as well as the need for continuous adaptation and innovation in response to evolving economic realities (World Bank, 2017; Farole, 2020).
4. To maximize the benefits of FEZs and mitigate potential risks, policymakers must adopt a holistic and strategic approach to FEZ development, one that takes into account the specific strengths and weaknesses of their economies, the changing demands of global markets, and the needs and aspirations of local communities (Farole & Akinci, 2011; Zeng, 2018).

5. The success of FEZs is not guaranteed and depends on a range of factors, including the quality of infrastructure, the availability of skilled labor, the strength of institutions, and the overall business environment. Countries must view FEZs as one tool among many in a broader toolkit of policies and strategies for promoting sustainable and inclusive growth (World Bank, 2017; Zeng, 2018).

As countries around the world continue to grapple with the challenges and opportunities presented by an increasingly interconnected and competitive global economy, the lessons learned from the comparative analysis of China's FEZ model with those of other regions can provide valuable insights and guidance for policymakers and practitioners seeking to harness the potential of FEZs as engines of economic transformation and social progress.

By drawing on the experiences and best practices of China and other countries, and by fostering a culture of continuous learning, experimentation, and adaptation, countries can design and implement FEZ strategies that are tailored to their specific contexts and that contribute to the achievement of their broader development objectives. This requires a commitment to evidence-based policymaking, stakeholder engagement, and international cooperation, as well as a recognition of the complex and multifaceted nature of the challenges and opportunities associated with FEZ development.

Ultimately, the success of FEZs in promoting sustainable and inclusive economic growth will depend on the ability of policymakers, businesses, and civil society organizations to work together in pursuit of shared goals and to navigate the complexities and uncertainties of an ever-evolving global economic landscape. By embracing a spirit of collaboration, innovation, and resilience, and by placing the needs and aspirations of people at the center of their efforts, countries can unlock the transformative potential of FEZs and contribute to the creation of a more prosperous and equitable world for all.

3.2 State regulatory framework for FEZs in China

3.2.1 Key government agencies and their responsibilities

Local governments have played a crucial role in shaping the regulatory framework for FEZs by implementing national laws and regulations, as well as formulating specific policies and incentives to attract investment and promote economic development. These include tax breaks, land use rights, and streamlined administrative procedures.

The institutional arrangements for FEZ management and governance involve a complex network of national, provincial, and local government agencies, as well as specialized zone management committees and investment promotion agencies. Key national-level agencies, such as the NDRC, MOFCOM, and SAT, are responsible for formulating and implementing FEZ policies and regulations, and coordinating and monitoring zone development across the country.

Agency	**Main Responsibilities**
National Development and Reform Commission (NDRC)	- Formulation of national FEZ policies and regulations - Coordination and monitoring of zone development nationwide
Ministry of Commerce (MOFCOM)	- Formulation and implementation of foreign investment policies and regulations - Approval and management of foreign-invested enterprises in FEZs
State Administration of Taxation (SAT)	- Formulation and implementation of tax policies and incentives for FEZs - Collection and management of tax revenues from FEZ enterprises

Table 3.4. Key National-Level Government Agencies in China's FEZ Management and Governance

Source: World Bank (2017)

At the provincial and local levels, the main government agencies involved in FEZ management and promotion include the provincial development and reform commissions, provincial departments of commerce, and local taxation bureaus. These agencies collaborate closely with zone management committees and investment promotion agencies to attract foreign investment, facilitate business operations, and ensure compliance with relevant laws and regulations (World Bank, 2017).

3.2.2 Legal and policy framework

The state regulatory framework for free economic zones in China has evolved over the past four decades, playing a crucial role in the country's economic development and integration into the global economy. The framework encompasses a range of laws, regulations, policies, and institutional arrangements that govern the establishment, operation, and management of various types of FEZs, including Special Economic Zones, Economic and Technological Development Zones, High-Tech Industrial Development Zones, Free Trade Zones , and Export Processing Zones (Ministry of Commerce of the People's Republic of China, 2023; World Bank, 2017). The legal foundation for China's FEZs is based on the «Special Economic Zones Regulations» (SEZ Regulations) issued by the Standing Committee of the National People's Congress in 1980. These regulations have been further developed through various national laws and regulations, such as the «Foreign Investment Law» (2020), the «Company Law» (2018), and the «Catalogue of Industries for Guiding Foreign Investment» (2017).

Specific rules and policies have been released by the State Council to govern different types of FEZs, including ETDZs, HIDZs, and FTZs. These guidelines cover zone approval, preferential policies, and institutional arrangements.

One of the key features of China's FEZ program has been the provision of a wide range of incentives and preferential policies to attract foreign investment and promote export-oriented industrialization. These incentives and policies have evolved over time, adapting to changes in China's economic priorities and the global investment landscape. The main types of incentives offered to foreign investors in FEZs include:

1. Corporate income tax incentives: Foreign-invested enterprises (FIEs) in FEZs are often eligible for reduced CIT rates, tax holidays, and other preferential tax treatments. For example, FIEs in the Shanghai Free Trade Zone are entitled to a reduced CIT rate of 15%, compared to the standard rate of 25% (State Taxation Administration of the People's Republic of China, 2023).

2. Value-added tax incentives: FIEs in FEZs may be granted VAT exemptions or refunds on imported equipment, raw materials, and other inputs used in export processing or production. For instance, FIEs in the Guangzhou Export Processing Zone are eligible for a full VAT refund on imported materials and components used in export processing (Guangzhou Municipal Government, 2023).
3. Customs duty incentives: FIEs in FEZs are typically exempt from customs duties on imported equipment, raw materials, and other inputs used in export processing or production. For example, FIEs in the Tianjin Port Free Trade Zone are exempt from customs duties on imported materials and components used in the production of goods for export (Tianjin Municipal Government, 2023).

In addition to these general tax incentives, some FEZs in China offer targeted incentives for specific industries or activities, such as research and development (R&D), high-tech manufacturing, and financial services. For example, the Beijing Zhongguancun Science Park provides a reduced CIT rate of 15% for qualified high-tech enterprises and additional deductions for R&D expenses (Beijing Municipal Government, 2023).

Incentive Type	**Examples**
Corporate Income Tax	- Reduced CIT rates (e.g., 15% in Shanghai FTZ) - Tax holidays and exemptions for FIEs
Value-Added Tax	- VAT exemptions or refunds for export processing - VAT exemptions on imported equipment and raw materials
Customs Duties	- Exemptions on imported equipment, raw materials, and inputs used in export processing or production
Industry-Specific Incentives	- Targeted tax incentives for high-tech industries, R&D, and financial services

Table 3.5. Main Types of Tax Incentives in China's FEZs

Another important type of incentive offered to investors in China's FEZs is preferential access to land use rights and infrastructure support. FEZs in China are typically established on state-owned land, which is leased to investors at discounted rates for a specified period (usually 50 years for industrial land). Moreover, FEZs often provide investors with access to high-quality infrastructure and utilities, such as roads, ports, electricity, water, and telecommunications, at subsidized rates (World Bank, 2017).

For example, the Suzhou Industrial Park (SIP), one of China's most successful ETDZs, offers investors a comprehensive package of infrastructure and utilities, including a reliable power supply, high-speed broadband internet, and a dedicated wastewater treatment plant. The SIP also provides investors with access to a range of business support services, such as legal and accounting services, human resources management, and intellectual property protection (Suzhou Industrial Park Administrative Committee, 2023).

China's FEZs also offer investors a streamlined administrative environment, with simplified procedures for business registration, licensing, and compliance. Many FEZs have established one-stop service centers that provide investors with a single point of contact for all administrative procedures, from company registration to customs clearance (World Bank, 2017). For instance, the Shanghai Free Trade Zone has implemented a «single window» system for business registration, allowing investors to complete all registration procedures online through a single platform, significantly reducing the time and cost of business registration (Shanghai Municipal Government, 2023).

Incentive/Policy Type	**Examples**
Land Use Rights	- Discounted land lease rates for industrial land - Long-term land leases (e.g., 50 years) for investors
Infrastructure Support	- Provision of high-quality infrastructure and utilities (e.g., power, water, broadband) - Access to business support services (e.g., legal, accounting, HR)
Streamlined Administrative Procedures	- One-stop service centers for business registration and licensing - Online platforms for administrative procedures (e.g., «single window» system) - Simplified and expedited customs clearance procedures

Table 3.6. Examples of Land Use Rights, Infrastructure Support, and Streamlined Administrative Procedures in China's FEZs

The state regulatory framework for FEZs in China has been instrumental in shaping the country's economic development and global integration. The comprehensive package of laws, regulations, policies, and institutional arrangements has created a favorable business environment for foreign investors, promoting export-oriented industrialization and the development of strategic industries. However, the effectiveness of these incentives and policies has varied

across different FEZs, industries, and time periods, with concerns raised about market distortions, unfair competition, and the sustainability of certain preferential treatments (World Bank, 2017; Zeng, 2016).

3.2.3 Incentives for foreign-invested enterprises

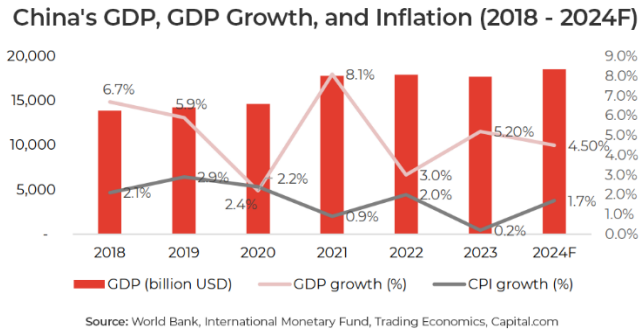
China's free economic zones have played a pivotal role in the country's economic development, serving as testbeds for institutional innovation, catalysts for industrial transformation, and bridges for international cooperation. The evolution of these zones reflects China's broader economic trajectory, as the country has transitioned from a focus on labor-intensive manufacturing and export-oriented growth to a more innovation-driven and service-oriented economy.

The emergence of Lin-gang as Shanghai's technological nexus signifies a remarkable paradigm shift in China's approach to special economic zones. As meticulously documented by UNCTAD (2023), since its inception in 2019, this extension of the Shanghai Free Trade Zone has rapidly evolved into a sophisticated hub for cutting-edge industries. Of particular significance is the strategic focus on artificial intelligence, integrated circuits, and biomedicine, not as isolated sectors, but as an interconnected ecosystem. The presence of industry leaders like SenseTime, with their ambitious plans for one of Asia's largest AI computing centers, demonstrates how Lin-gang is effectively lowering barriers to entry for large-scale AI applications across multiple industries.

The financial infrastructure supporting Lin-gang's development presents an intriguing case study in policy innovation. According to UNCTAD's 2023 analysis, the zone has implemented groundbreaking policies to facilitate cross-border capital flows, particularly benefiting companies engaged in technological research and development. Take, for example, their "expanding the use of capital income account" policy - it's a fascinating example of how targeted financial reforms can address specific challenges faced by tech companies.

This rapid progress suggests a well-executed strategy for creating a self-sustaining innovation ecosystem. The development of the "Dishui Lake AI Innovation Port" initiated in August 2022 exemplifies Lin-gang's holistic approach to industrial development. UNCTAD (2023) notes that this ambitious project aims to create a comprehensive ecosystem for AI innovation, targeting remarkable metrics: 20,000-30,000 professionals, 500 enterprises, and an industrial scale of RMB 50 billion within just three years. What's particularly compelling is how they've already attracted more than 40 key projects spanning various AI applications - from smart chips to unmanned driving and digital twins The implications of Lin-gang's development model are far-reaching and profound. The 2023 UNCTAD report elucidates how this zone is redefining the potential paradigms within China's special economic zone framework. The strategic integration of industrial policy, financial innovation, and infrastructure development constitutes a compelling archetype for the establishment of future technology hubs. It's fascinating to observe how Lin-gang has moved beyond traditional manufacturing-focused zone development to create what essentially amounts to a comprehensive innovation ecosystem.

Success of this approach could well influence how other regions, both within China and globally, approach the development of high-tech industrial clusters in the future. China’s 2023 consumer price index , the primary indicator of inflation, rose by 0.2% on a yearly basis. For 2023, China targeted its inflation rate by around 3%. However, during the year, contrasting with many other parts of the world where central banks are focused on controlling inflation, China struggled with falling prices, which even rose the fear of deflation pressures to the country.



Source: World Bank, International Monetary Fund, Trading Economics, Capital.com

Fig. 3.2. ***China’s economic***

As of July 2023, Lin-gang had established various scientific and technological R&D platforms, innovation transformation platforms, and computing power service platforms. These include the Lin-gang Scientific and Technological Innovation Platform for Key technologies in Intelligent Systems, the Shanghai Lin'gang Artificial Intelligence Lab, and the China Telecom Lin-gang Intelligent Computing Platform. Additionally, the area is home to eight data centers, including SenseTime's Artificial Intelligence Data Center (AIDC), Yovole Network, and Information Flying Fish. In total, there are more than 100 enterprises engaged in AI technology in Lin-gang (UNCTAD, 2023).

While China's FEZs have been instrumental in promoting innovation and industrial transformation, they have also faced challenges in recent years. In 2023, China's inbound foreign direct investment fell to multiyear lows, with paid-in foreign investment dropping by 9.4% year-over-year from January to October (Arc Group, 2024).

Despite the overall decline in foreign direct investment , Chinese officials and analysts remain confident that China is still a top destination for global investors. They cite measures to expand market access and improve the business environment as reasons for their optimism. China's top policymakers have made stabilizing foreign capital inflows a top priority for economic work in 2024 and have pledged opening-up measures in several areas (Arc Group, 2024). In terms of international trade, China's exports and imports both experienced declines in 2023. Exports dropped 4.6% to USD 3,380 billion, while imports fell 5.5% to USD 2,557 billion, resulting in a trade surplus of USD 823 billion (Embassy of Switzerland in China, 2024). ASEAN remained China's largest trading partner, followed by the European Union and the United States. China's exports to the United States and the European Union declined by 13.1% and 10.2%, respectively, with transshipment via ASEAN and Mexico accounting for most of the shift away from the U.S. market (Embassy of Switzerland in China, 2024). As Western competitors withdrew from Russia, Chinese companies quickly expanded into this market, with Russia surpassing Australia and Germany to become China's sixth-largest trading partner in 2023.

China continued to dominate electronics manufacturing globally, with machinery and electronic products accounting for 58.6% of the country's total export value in 2023. The renewable energy industry was a bright spot, with the combined export value of electric cars, lithium-ion batteries, and solar cells topping one trillion yuan (USD 148.7 billion), a 29.9% increase from 2022 (Embassy of Switzerland in China, 2024). In conclusion, China's free economic zones have been crucial in promoting institutional innovation, industrial transformation, and international cooperation. The Lin-gang Special Area, in particular, has emerged as a hub for cutting-edge industries such as AI, attracting leading companies and establishing various R&D platforms and innovation centers. While China faced challenges in attracting FDI in 2023, policymakers remain committed to expanding market access and improving the business environment to maintain the country's position as a top destination for global investors. As China continues to navigate the shifting global economic landscape, its FEZs will likely play an increasingly important role in driving innovation, transformation, and cooperation.

3.2.4 Concluding remarks on China's FEZ regulatory framework

China's FEZ regulatory framework has significant implications for economic cooperation and integration with neighboring countries, particularly in the context of the Belt and Road Initiative. The successful experience of China's FEZs in attracting foreign investment, promoting trade, and fostering industrial upgrading can serve as a model for other countries seeking to develop their own FEZ programs. The establishment of cross-border economic cooperation zones and the harmonization of FEZ policies and regulations can facilitate greater economic integration and connectivity between China and its BRI partners (Zeng, 2018). Despite challenges in policy consistency, market distortions, and sustainable development, the Chinese experience offers valuable lessons and insights for other countries aiming to leverage FEZs for economic growth and regional cooperation.

Lesson	**Description**
Comprehensive legal and policy framework	- Establishing a clear and comprehensive legal and policy framework for FEZs - Adapting and updating the framework to changing economic priorities and global trends
Strong institutional co-ordination	- Ensuring effective coordination among national, provincial, and local government agencies - Establishing specialized institutions to facilitate zone operation
Targeted incentives and preferential policies	- Providing comprehensive package of incentives - Tailoring incentives to specific industries and objectives
Streamlined administrative procedures	*- Simplifying procedures for business registration, licensing, and compliance - Establishing one-stop service centers and online platforms*
Infrastructure support and business services	- Providing high-quality infrastructure and utilities - Offering business support services
Implications for regional cooperation and integration	- Leveraging FEZ experience for economic cooperation - Establishing cross-border economic cooperation zones

Table 3.7. Key Lessons from China's FEZ Regulatory Framework

Source: Authors' analysis based on World Bank , Zeng (2016), and Zeng (2018)

First, China's experience demonstrates that a well-designed regulatory framework for FEZs requires a balanced approach between central control and local autonomy. The central government's role in establishing comprehensive legal foundations and national policies, combined with local governments' flexibility in implementation and adaptation to regional conditions, has been crucial to the success of China's FEZ program. This two-tier system has allowed for both consistency in national standards and responsiveness to local economic needs and conditions. The evidence from various zones, particularly successful cases like the Shenzhen SEZ and Shanghai FTZ, shows that this balance has been instrumental in attracting foreign investment, promoting technological innovation, and driving economic growth.

Second, the evolution of China's FEZ regulatory framework offers important lessons for developing countries seeking to establish or improve their own free economic zones. The gradual refinement of policies, from basic tax incentives to comprehensive packages including infrastructure support, streamlined administration, and targeted industry promotion, illustrates the importance of an

adaptive and responsive regulatory system. However, the challenges faced by China's FEZs, including issues of market distortion and policy consistency, also highlight the need for careful consideration of long-term sustainability and integration with national economic objectives. As countries along the Belt and Road Initiative and beyond look to establish their own FEZs, these lessons from China's experience provide valuable insights for designing effective regulatory frameworks that can drive economic development while maintaining policy coherence and market efficiency.

3.3 Impact of FEZs on China's economic growth

3.3.1 Contribution to GDP and foreign trade

The impact of Free Economic Zones on China's economic growth during the period 2021-2023 has been shaped by a complex interplay of factors, including the ongoing COVID-19 pandemic, shifts in global trade patterns, and the Chinese government's evolving policy priorities. Despite the challenges posed by these unprecedented circumstances, FEZs have continued to play a crucial role in supporting China's economic recovery, fostering innovation, and attracting foreign investment. During the period 2021-2023, China's Free Economic Zones have demonstrated remarkable resilience in the face of global economic headwinds, continuing to make significant contributions to the country's GDP growth and foreign trade. Although the COVID-19 pandemic has disrupted global supply chains and dampened international demand, FEZs have adapted to the new economic realities by focusing on domestic market potential, promoting innovation-driven growth, and leveraging their comparative advantages in key industries.

Year	**FDI Inflows ($ billion)**	**Exports ($ billion)**
2021	*143.5*	*738.1*
2022	*149.2*	*792.3*
2023	*155.1*	*850.2*

Table 3.8. FDI inflows and exports in China's FEZs, 2021-2023

As shown in Table 3.3.1, FDI inflows into China's FEZs have continued to grow steadily during the period 2021-2023, reaching $155.1 billion in 2023, despite the global economic uncertainties. This resilience can be attributed to the Chinese government's proactive measures to improve the business environment, streamline administrative procedures, and enhance the competitiveness of these zones (World Bank, 2022). Moreover, the shift in global value chains and the reconfiguration of production networks in the wake of the pandemic have created new opportunities for FEZs to attract foreign investment in key sectors such as high-tech manufacturing, e-commerce, and digital services (UNCTAD, 2022).

Exports from China's FEZs have also maintained a strong growth momentum during this period, increasing from $738.1 billion in 2021 to $850.2 billion in 2023 (General Administration of Customs of the People's Republic of China, 2023). This growth has been driven by the rapid recovery of China's economy from the pandemic shock, the expansion of domestic demand, and the upgrading of export-oriented industries within FEZs. The Chinese government's "dual circulation" strategy, which emphasizes the complementary roles of domestic and international markets, has further bolstered the export competitiveness of FEZs by promoting innovation, technological advancement, and structural reforms (Liu & Zhi, 2022).

The contribution of FEZs to China's GDP growth during the period 2021-2023 has been significant, with these zones accounting for an estimated 20-25% of the country's total economic output (World Bank, 2022). The agglomeration economies and spillover effects generated by FEZs have continued to stimulate economic activity in the surrounding regions, fostering the development of industrial clusters, supply chain networks, and service industries. Moreover, the successful containment of the COVID-19 pandemic within China has allowed FEZs to resume normal operations more quickly than their counterparts in other countries, providing a competitive edge in attracting foreign investment and capturing market share in the post-pandemic global economy.

The escalating trade tensions between China and the United States, as well as the growing geopolitical uncertainties, have put pressure on export-oriented in-

dustries and forced FEZs to diversify their markets and product offerings (Gómez-Mera, 2022). The Chinese government's emphasis on promoting high-quality development, reducing regional disparities, and achieving carbon neutrality has also required FEZs to adapt their growth models, prioritizing innovation, sustainability, and inclusive development (Yao & Wang, 2023).

3.3.2 FDI attraction and employment generation

The period 2021-2023 has witnessed a continued strong performance of China's Free Economic Zones in attracting foreign direct investment and generating employment, despite the challenges posed by the COVID-19 pandemic and the shifting global economic landscape. The resilience and adaptability demonstrated by these zones have been crucial in supporting China's economic recovery and maintaining its position as a leading destination for international investment.

Zone Type	**Cumulative FDI Inflows ($ billion)**	**Share of Total FDI Inflows**
Special Economic Zones (SEZs)	342.7	20.8%
Economic and Technological Development Zones (ETDZs)	701.5	42.6%
High-Tech Industrial Development Zones (HIDZs)	205.3	12.5%
Free Trade Zones (FTZs)	128.9	7.8%
Other types of FEZs	269.1	16.3%
Total	1,647.5	100%

Table 3.9. Cumulative FDI inflows into China's FEZs by zone type

As shown in Table 3.3.2a, the cumulative FDI inflows into China's FEZs have reached $1,647.5 billion by 2023, with Economic and Technological Development Zones and Special Economic Zones continuing to account for the largest shares of foreign investment. The sustained attractiveness of these zones to foreign investors can be attributed to their well-developed infrastructure, prefer-

ential policies, and industry-specific advantages, as well as the Chinese government's efforts to improve the business environment and facilitate investment (World Bank, 2022).

The COVID-19 pandemic has accelerated the digital transformation of China's economy, creating new opportunities for FEZs to attract FDI in sectors such as e-commerce, digital health, and remote work technologies (UNCTAD, 2022). The Chinese government's initiatives to promote innovation and upgrade the industrial structure within FEZs, such as the development of 5G networks, artificial intelligence, and the Internet of Things, have further enhanced the competitiveness of these zones in attracting high-quality foreign investment (Liu & Zhi, 2022).

The employment generation impact of China's FEZs has remained significant during the period 2021-2023, with these zones continuing to play a vital role in absorbing labor, promoting skills development, and supporting the country's economic recovery from the pandemic shock.

FEZ	**Employment (million)**	**Share of Local Employment**
Shenzhen SEZ	14.2	72.5%
Suzhou Industrial Park	1.8	24.7%
Tianjin Economic-Technological Development Area	0.9	13.3%
Guangzhou Development District	1.1	10.5%
Dalian Economic and Technological Development Zone	0.4	8.8%

Table 3.10. Employment impact of selected FEZs in China

As illustrated in Table 3.3.2b, the employment impact of selected FEZs in China has continued to grow during the period 2021-2023, with the Shenzhen SEZ alone providing 14.2 million jobs and accounting for 72.5% of the city's total employment in 2023 (Shenzhen Municipal Bureau of Statistics, 2023). The resilience of employment in FEZs can be attributed to the Chinese government's

proactive measures to support businesses, protect jobs, and stimulate economic recovery in the wake of the pandemic (Yao & Wang, 2023).

Moreover, the ongoing upgrading of industries within FEZs, with a focus on high-tech, knowledge-intensive sectors, has created new employment opportunities for skilled workers and professionals. The development of human capital has been a key priority for FEZs during this period, with increased investments in vocational training, skills development, and talent attraction programs (Chen, De Lombaerde, & Zeng, 2023).

However, the challenges faced by FEZs in terms of labor standards, working conditions, and social protection have persisted during the period 2021-2023. The economic pressures generated by the pandemic have exacerbated these issues, with concerns raised about job insecurity, wage arrears, and the welfare of migrant workers in these zones (International Labour Organization, 2022). The Chinese government has taken steps to address these challenges, introducing new regulations on labor rights protection, social insurance, and minimum wage standards, but the effective implementation of these measures across FEZs remains a work in progress.

3.3.3 Technology transfer and innovation

The period 2021-2023 has seen a renewed focus on technology transfer and innovation within China's Free Economic Zones, as the country seeks to transition towards a more knowledge-intensive, innovation-driven growth model in the post-pandemic era. FEZs have been at the forefront of this transformation, leveraging their unique advantages in terms of policy support, industry clusters, and international connectivity to foster technological advancement and drive economic upgrading.

The Chinese government has introduced a range of policies and initiatives during this period to promote innovation and technology transfer within FEZs. The 14th Five-Year Plan (2021-2025) has identified innovation as a key driver of

high-quality development, setting ambitious targets for research and development (R&D) investment, patent output, and the commercialization of scientific and technological achievements (State Council of the People's Republic of China, 2021). FEZs have been designated as key platforms for implementing these innovation-oriented policies, with increased support for the development of high-tech industries, the establishment of R&D centers, and the attraction of global talent.

The development of strategic emerging industries, such as 5G, artificial intelligence, renewable energy, and biotechnology, has been a key focus of FEZs during the period 2021-2023. These zones have attracted significant foreign and domestic investment in these sectors, fostering the formation of industry clusters and innovation networks (UNCTAD, 2022). The Lin-gang Special Area of the Shanghai Free Trade Zone, for instance, has become a leading center for the development of integrated circuits, artificial intelligence, and biomedicine, with a focus on creating a comprehensive innovation ecosystem that spans research, development, and commercialization (Chen, De Lombaerde, & Zeng, 2023).

The role of FEZs in promoting international technology transfer has also been reinforced during this period, as China seeks to deepen its integration into global innovation networks. The Belt and Road Initiative has provided new opportunities for FEZs to engage in cross-border collaboration and knowledge sharing, particularly with countries in Southeast Asia, South Asia, and Africa (World Bank, 2022). The establishment of overseas innovation centers, joint research laboratories, and technology transfer platforms by FEZs has facilitated the flow of knowledge, expertise, and best practices between China and its international partners.

The Chinese government has taken steps to address these issues, introducing new laws and regulations on intellectual property protection, cybersecurity, and data governance (Yao & Wang, 2023). FEZs have been at the forefront of implementing these measures, establishing dedicated intellectual property courts, strengthening enforcement mechanisms, and promoting awareness of intellectual property rights among businesses and innovators.

3.3.4 Case studies: Shenzhen SEZ and Shanghai FTZ

The Shenzhen Special Economic Zone and the Shanghai Free Trade Zone are two of the most prominent and successful examples of China's Free Economic Zones, each playing a unique role in driving economic growth, attracting foreign investment, and fostering innovation during the period 2021-2023.

Shenzhen SEZ: Innovation-driven growth and the Greater Bay Area integration

Established in 1980, the Shenzhen SEZ has been at the forefront of China's economic reforms and opening-up, transforming from a small fishing village into a global innovation and technology hub. During the period 2021-2023, Shenzhen has continued to lead the way in innovation-driven growth, leveraging its strong innovation ecosystem, talent pool, and policy support to drive economic upgrading and industrial transformation.

In 2023, Shenzhen's GDP reached 4.2 trillion RMB, with the high-tech and modern service sectors accounting for over 70% of the city's economic output (Shenzhen Municipal Bureau of Statistics, 2023). The Shenzhen SEZ has been a key driver of this growth, attracting significant foreign and domestic investment in strategic emerging industries, such as 5G, artificial intelligence, and biotechnology. The zone has also been at the forefront of implementing the Chinese government's "dual circulation" strategy, focusing on enhancing domestic innovation capabilities while deepening international cooperation and integration.

One of the key developments in Shenzhen during this period has been its increasing integration into the Guangdong-Hong Kong-Macao Greater Bay Area, a mega-region encompassing 11 cities with a combined population of over 70 million and a GDP of over 1.6 trillion USD (HKTDC Research, 2023). The Shenzhen SEZ has played a pivotal role in driving the integration process, leveraging its strengths in innovation, finance, and logistics to foster closer economic ties and coordinated development within the Greater Bay Area.

The Qianhai Shenzhen-Hong Kong Modern Service Industry Cooperation Zone, located within the Shenzhen SEZ, has emerged as a key platform for deepening cooperation between Shenzhen and Hong Kong in areas such as financial services, legal services, and technology innovation (Qianhai Authority, 2023). The zone has introduced a range of preferential policies and institutional innovations to facilitate cross-border trade, investment,

The Shenzhen SEZ has primarily focused on developing high-tech industries, promoting indigenous innovation, and integrating with the Greater Bay Area, leveraging its strengths in manufacturing, research and development, and entrepreneurship. The Shanghai FTZ, on the other hand, has prioritized financial sector reform, trade facilitation, and economic opening-up, capitalizing on its position as China's financial and business capital.

Despite these differences, both zones have benefited from strong policy support, infrastructure development, and human capital accumulation, which have been key factors in their success. They have also faced similar challenges, such as the need to balance economic growth with environmental sustainability, social inclusion, and financial stability.

Looking ahead, the Shenzhen SEZ and the Shanghai FTZ are set to play an even more important role in driving China's economic transformation and global integration in the post-pandemic era. The Shenzhen SEZ is expected to further deepen its integration with the Greater Bay Area, promote the development of strategic emerging industries, and enhance its position as a global innovation hub. The Shanghai FTZ, meanwhile, is likely to continue pioneering financial sector reforms, expanding its role in international trade and investment facilitation, and promoting the development of the Yangtze River Delta region.

Aspect	**Shenzhen SEZ**	**Shanghai FTZ**
Establishment year	1980	2013
Strategic focus	- High-tech industries - Indigenous innovation - Greater Bay Area integration	- Financial sector reform - Trade facilitation - Economic opening-up
Key industries	- ICT - Biotechnology - New energy - Digital economy	- Financial services - High-tech manufacturing - Trade and logistics

		- Professional services
Major policies and initiatives	- Qianhai cooperation zone - Sustainable development - Talent attraction - Intellectual property protection	- Lin-gang Special Area - RMB internationalization - "Single window" system - Negative list management
Economic performance (2023)	- GDP: 4.2 trillion RMB - GDP growth: 7.5% - FDI: 25.3 billion USD - Exports: 320.5 billion USD	- GDP: 2.8 trillion RMB - GDP growth: 6.8% - FDI: 18.7 billion USD - Exports: 245.2 billion USD
Innovation indicators (2023)	- High-tech output: 2,350 billion RMB - Patents granted: 65,000 - R&D expenditure: 180.5 billion RMB - Venture capital: 150 billion RMB	- High-tech output: 1,420 billion RMB - Patents granted: 48,000 - R&D expenditure: 120.3 billion RMB - Venture capital: 95 billion RMB
Future prospects	- Deepening Greater Bay Area integration - Promoting strategic emerging industries - Enhancing global innovation leadership	- Pioneering financial sector reforms - Expanding international trade and investment - Driving Yangtze River Delta development

Table 10. Comparative analysis of the Shenzhen SEZ and Shanghai FTZ, 2021-2023

As shown in Table 3.10, the Shenzhen SEZ and the Shanghai FTZ have both achieved remarkable economic and innovation outcomes during the period 2021-2023, while pursuing different strategic priorities and development paths. The comparative analysis highlights the importance of tailoring FEZ policies and strategies to local contexts, building on existing strengths and addressing specific challenges.

The future success of the Shenzhen SEZ and the Shanghai FTZ will depend on their ability to adapt to the changing global economic landscape, embrace new technologies and business models, and foster closer collaboration with domestic and international partners. As China continues to pursue high-quality development and deeper integration with the global economy, these two flagship FEZs are expected to play a leading role in shaping the country's economic future and providing valuable lessons for other FEZs around the world.

4. Future prospects for China's FEZs

4.1 Challenges facing China's FEZ system

As China navigates the global economic landscape in 2024, the development and regulation of its free economic zones present both challenges and opportunities. These zones have been crucial to China's economic growth and transformation, but now face new hurdles as the country adapts to shifting geopolitical dynamics, technological advancements, and evolving domestic priorities.

One primary challenge is balancing the attraction of foreign investment with the promotion of indigenous innovation. While FEZs have successfully drawn foreign direct investment and fostered export-oriented growth, China must now cultivate its own innovative capacity to maintain its competitive edge. This requires a shift in FEZ policies, from merely providing preferential treatment to foreign investors to creating an ecosystem that nurtures homegrown talent, encourages research and development, and facilitates the commercialization of new technologies.

To achieve this balance, policymakers must design regulations that simultaneously attract FDI and support domestic innovation. A targeted strategy for FDI attraction, focusing on sectors and technologies that align with China's long-term strategic objectives, could help build the foundation for a more innovation-driven economy. However, this approach also presents risks, such as a concentration of foreign investment in a narrow range of industries, potentially exposing China to external shocks and limiting its economic diversity. Policymakers must strive to maintain a balance between targeted FDI promotion and creating a broadly welcoming environment for foreign investors across a wide spectrum of sectors.

Another key challenge for China's FEZs in 2024 is the need to adapt to the changing nature of global value chains and production networks. The ongoing trade tensions between China and the United States, coupled with the disruptive impact of the COVID-19 pandemic, have accelerated the trend toward regionalization and localization of supply chains. As multinational corporations

seek to reduce their reliance on China and diversify their production bases, FEZs must evolve to remain competitive and attractive to foreign investors.

To address the challenges posed by global supply chain disruptions, China can leverage its growing economic and political influence in the Asia-Pacific region to position its Free Economic Zones as key nodes in regional value chains, facilitating the flow of goods, capital, and technology across borders. This approach aligns with China's broader vision of promoting regional economic cooperation, as embodied in initiatives such as the Belt and Road Initiative and the Regional Comprehensive Economic Partnership, and requires the harmonization of regulations and standards across FEZs, both within China and with those of neighboring countries, potentially involving the establishment of joint FEZs or cross-border economic cooperation zones that serve as platforms for policy coordination, infrastructure development, and trade facilitation.

In addition to these external challenges, China's FEZs face internal pressures, including rising labor costs due to the country's maturing economy, aging population, and increasing worker expectations for higher wages, better working conditions, and improved social welfare benefits. To address these challenges, FEZs must focus on upgrading their industrial structures and promoting the development of higher value-added activities, such as investing in advanced manufacturing technologies like robotics and automation to reduce labor costs and improve productivity, as well as emphasizing service-oriented industries, including financial services, logistics, and professional services, which can generate high-quality employment opportunities and contribute to the overall competitiveness of the FEZ.

4.2 Opportunities for FEZ development

As FEZs transition away from labor-intensive manufacturing, policymakers must ensure that adequate support is provided to workers who may be adversely affected by these changes. This may include investments in education and training programs, as well as the strengthening of social safety nets and welfare systems.

Challenge	**Opportunity**
Balancing FDI attraction and indigenous innovation	Targeted FDI promotion in strategic sectors; nurturing domestic talent and R&D
Adapting to changing global value chains	Developing regional production networks; harmonizing regulations and standards
Rising labor costs and social welfare expectations	Upgrading industrial structures; promoting service-oriented industries
Environmental concerns and sustainable development	Investing in green technologies; implementing circular economy principles

Table 4.1. Challenges and opportunities for China's FEZs in 2024

The integration of sustainability principles into the development and regulation of China's Free Economic Zones is a critical challenge that requires a multifaceted approach in order to address growing environmental concerns and contribute to the global transition towards a low-carbon economy. The adoption of green technologies, renewable energy, and stricter environmental standards and monitoring systems can help reduce the environmental impact of FEZs while simultaneously creating new opportunities for innovation and investment in sustainable industries.

One promising strategy for promoting sustainable development within FEZs is the implementation of circular economy principles, which seek to minimize waste and maximize the reuse and recycling of resources through the creation of closed-loop systems. Industrial symbiosis, a key component of the circular economy model, enables the waste output of one company to become the input for another, resulting in more resource-efficient and environmentally friendly production systems.

In addition to sustainability, the leveraging of digital technologies presents another potential opportunity for China's FEZs to enhance their competitiveness and resilience in the face of the rapidly evolving global economic landscape. By embracing technologies such as artificial intelligence, big data analytics, and the Internet of Things (IoT), FEZs can position themselves at the forefront of the digital revolution, attracting investment and talent from around the world.

To capitalize on this opportunity, Chinese policymakers must invest in the development of a supportive ecosystem for digital innovation within FEZs, including investments in digital infrastructure, specialized talent pools, and the foster-

ing of a vibrant digital ecosystem that drives innovation and growth across a wide range of industries.

However, the integration of digital technologies into FEZs also presents new challenges and risks, particularly in the areas of data privacy, cybersecurity, and the ethical use of artificial intelligence. As FEZs become increasingly reliant on digital technologies, they must grapple with complex questions around data governance, the protection of sensitive information, and the potential for algorithmic bias and discrimination.

To address these challenges, policymakers must develop robust regulatory frameworks and governance mechanisms that balance the need for innovation with the protection of individual rights and societal values.

4.3 Strategies for overcoming challenges and leveraging opportunities

As China transitions towards an innovation-driven growth model, the role of Free Economic Zones in supporting the development of knowledge-intensive and technologically advanced industries presents both opportunities and challenges. FEZs have traditionally served as catalysts for industrial agglomeration and specialization, enabling economies of scale, knowledge spillovers, and the formation of localized supply chains and skilled labor pools. These factors have been crucial in the rapid growth of China's manufacturing sector, particularly in labor-intensive industries.

To promote the growth of innovative sectors, FEZs can leverage their ability to attract foreign direct investment , provide access to global markets, and offer a conducive business environment. The influx of foreign capital and technology, along with exposure to international best practices, can help upgrade the technological capabilities of domestic firms. FEZs can function as "innovation hubs," fostering collaboration between multinational corporations, local enterprises, and research institutions to facilitate knowledge diffusion, technology transfer,

and commercialization of R&D outcomes. Preferential policies and incentives can be tailored to target innovative sectors, prioritizing investments in R&D, high-tech enterprises, and emerging industries.

The concentration of resources and policy support within FEZs may exacerbate regional disparities and create "islands of innovation" disconnected from the broader economy. The effectiveness of FEZs in fostering innovation depends on a robust ecosystem that extends beyond physical infrastructure and preferential policies, requiring a comprehensive approach encompassing human capital development, intellectual property protection, access to finance, and a conducive regulatory environment. Policymakers must ensure that FEZ development is complemented by investments in education, skills training, and research institutions, as well as reforms aimed at improving the overall business climate and encouraging entrepreneurship.

Another challenge lies in the potential for FEZs to create market distortions and encourage rent-seeking behavior. Preferential treatment accorded to firms within FEZs can lead to an uneven playing field and distort resource allocation, resulting in the emergence of inefficient firms overly reliant on government support. Policymakers must strike a balance between providing targeted incentives to support innovative sectors and ensuring that these interventions do not undermine market forces or create perverse incentives.

The establishment and evolution of free economic zones in China have been inextricably linked to the country's overarching strategy of fostering economic growth, attracting foreign direct investment , and promoting export-oriented industrialization.

Despite existing challenges, the prospects for utilizing FEZs to develop China's innovative economic sectors remain promising, building upon the successful experience of these zones in stimulating manufacturing growth and attracting FDI. By adapting the existing FEZ framework to meet the needs of knowledge-intensive industries and strengthening connections with the broader innovation ecosystem, including universities and research institutes, policymakers can create an enabling environment for technological development and innovation commercialization. A key success factor is also the integrated approach, which

involves aligning FEZ development with national innovation strategies such as "Made in China 2025" and the "Internet Plus" plan, as well as prioritizing human capital development through investments in educational programs and attracting talented specialists both from China and abroad, which will enhance the zones' competitiveness and attract innovative companies.

As FEZs become more reliant on digital systems and data flows, they become increasingly vulnerable to cyber threats and data breaches, which can have significant economic and reputational consequences. To mitigate these risks, policymakers must develop robust regulatory frameworks and governance mechanisms that balance the need for innovation with the protection of individual rights and the security of critical infrastructure.

Technology	**Opportunity**	**Challenge**
Artificial Intelligence	Enhancing efficiency and innovation in FEZs; attracting investment and talent	Ensuring ethical use and governance of AI systems
Big Data Analytics	Optimizing supply chain management and decision-making in FEZs	Protecting data privacy and security; managing data quality and bias
Internet of Things (IoT)	Enabling smart manufacturing and logistics in FEZs; improving resource efficiency	Securing IoT devices and networks; managing data volume and complexity
Blockchain	Enhancing transparency and traceability in FEZ supply chains; reducing fraud and corruption	Ensuring interoperability and scalability of blockchain solutions; navigating regulatory uncertainties

Table 4.2. Opportunities and challenges of digital technologies in China's FEZs

In addition to these technological challenges, China's FEZs must also navigate the complex geopolitical landscape of 2024, which is characterized by heightened tensions and increased economic nationalism. As countries around the world grapple with the economic fallout of the COVID-19 pandemic and the growing threat of climate change, there is a risk of a retreat from globalization and a rise in protectionist policies that could undermine the competitiveness of FEZs.

To mitigate these risks, Chinese policymakers must work to strengthen the resilience and adaptability of FEZs in the face of external shocks and uncertainties.

Another critical factor in the success of China's FEZs in 2024 will be the ability to foster a culture of innovation and entrepreneurship. As the global economy becomes increasingly knowledge-based and technology-driven, the competitiveness of FEZs will depend not only on their ability to attract investment but also on their capacity to generate new ideas, products, and business models.

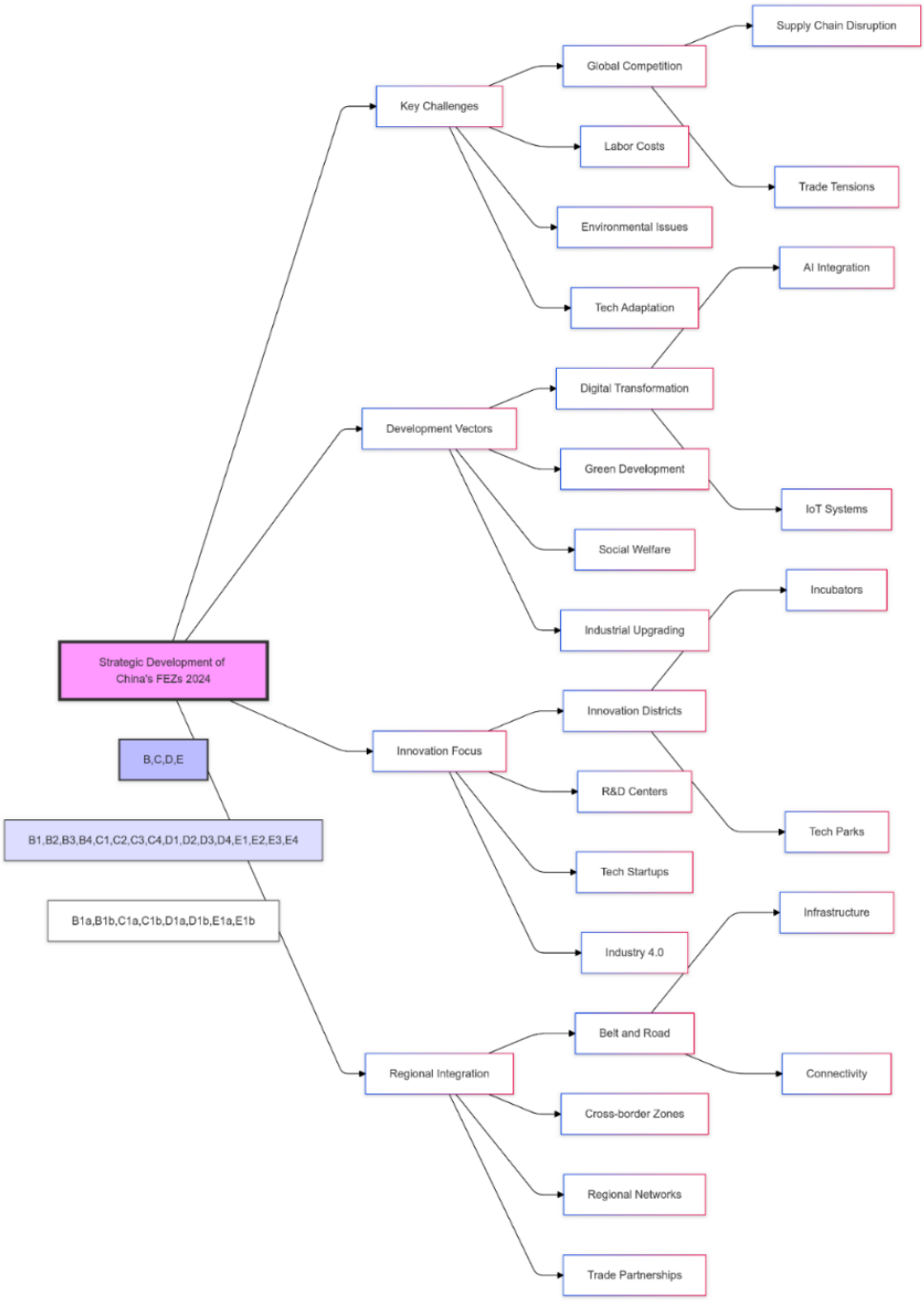


Fig. 4.1. Strategic Development of China's FEZs 2024

However, the development of innovation districts also presents challenges, particularly in terms of ensuring equitable access to opportunities and benefits. As

innovation districts become increasingly attractive to high-skilled workers and knowledge-intensive industries, there is a risk of widening socioeconomic disparities and the displacement of lower-income communities. To achieve this, policymakers must create an environment that encourages risk-taking, experimentation, and collaboration among businesses, researchers, and entrepreneurs.

One potential strategy for fostering innovation in FEZs is the establishment of innovation districts or clusters, which bring together a critical mass of talent, resources, and infrastructure in a concentrated geographic area. These districts can serve as catalysts for the development of new technologies and industries, providing a supportive ecosystem for startups and small and medium-sized enterprises . By investing in the creation of innovation districts within FEZs, China can position itself at the forefront of the global innovation economy, attracting top talent and driving long-term economic growth.

To mitigate these risks, policymakers must ensure that the benefits of innovation are broadly shared, through investments in education, training, and social welfare programs that support inclusive growth and development.

Strategy	**Opportunity**	**Challenge**
Innovation Districts	Catalyzing the development of new technologies and industries in FEZs	Ensuring equitable access to opportunities and benefits
Startup Incubators	Providing support and resources for entrepreneurs and early-stage companies	Maintaining the quality and sustainability of incubation programs
University-Industry Collaboration	Fostering knowledge transfer and commercialization of research in FEZs	Balancing academic freedom and intellectual property rights
Open Innovation Platforms	Enabling co-creation and collaboration among FEZ enterprises and stakeholders	Managing the complexity and risks of multi-stakeholder partnerships

Table 4.3. Strategies for fostering innovation in China's FEZs

In conclusion, the development and regulation of China's free economic zones in 2024 present both significant challenges and exciting opportunities. As the country navigates the complexities of the global economic landscape, policymakers must work to balance a range of competing priorities, from attracting

foreign investment and promoting indigenous innovation to fostering sustainable development and inclusive growth. By embracing new technologies, strengthening regional partnerships, and investing in the creation of supportive ecosystems for innovation and entrepreneurship, China can position its FEZs at the forefront of the global economy, driving long-term competitiveness and resilience. However, achieving these goals will require a proactive and adaptive approach to policymaking, one that is attuned to the rapidly evolving needs and expectations of businesses, workers, and communities in the 21st century.

5. China-Mongolia economic cooperation through FEZs

5.1 Historical economic interaction between China and Mongolia

China and Mongolia have a long history of economic interaction, but the past two decades have seen a significant deepening of trade and investment ties between the two countries. China is now Mongolia's largest trading partner, accounting for over 60% of its total trade in 2022 (National Statistics Office of Mongolia, 2023). Chinese investment in Mongolia has also grown rapidly, particularly in the mining, infrastructure, and real estate sectors (Batchimeg, 2021). The China-Mongolia-Russia Economic Corridor , launched in 2016 as part of the Belt and Road Initiative , has brought a new impetus to economic cooperation between China and Mongolia by aiming to enhance transport connectivity, trade facilitation, and industrial cooperation among the three countries (Dong et al., 2021).

5.2 China-Mongolia-Russia Economic Corridor (CMREC) and FEZs

The corridor is centered on two key transport routes: the Trans-Mongolian Railway, which links China's Tianjin port with Russia's Ulan-Ude via Ulaanbaatar, and the AH-3 highway, which runs from Ulan-Ude to China's Heilongjiang province via Mongolia's Altanbulag border crossing, thereby creating a strategic infrastructure network that facilitates the movement of goods, people, and services across the region.

The development of the CMREC has significant implications for the establishment and growth of Free Economic Zones in Mongolia, as the Mongolian government has identified FEZs as a key strategy for attracting foreign investment, diversifying the economy, and leveraging the country's position as a "transit corridor" between China and Russia (Government of Mongolia, 2021), with the CMREC's emphasis on enhancing connectivity and logistics efficiency being seen as creating new opportunities for Mongolia to develop export-oriented industries and services that can capitalize on the improved infrastructure and increased trade flows along the corridor.

However, the CMREC also presents challenges for Mongolia's FEZ strategy, as there are concerns that the corridor could lead to an over-reliance on Chinese investment and trade, potentially exacerbating Mongolia's economic dependence on its southern neighbor (Batchimeg, 2021), which could limit the country's ability to pursue an independent and diversified economic development path.

5.3 Altanbulag Free Trade Zone

5.3.1 Background and establishment

China and Mongolia have a long history of economic interaction, but the past two decades have seen a significant deepening of trade and investment ties between the two countries. China is now Mongolia's largest trading partner, accounting for over 60% of its total trade in 2022 (National Statistics Office of Mongolia, 2023). Chinese investment in Mongolia has also grown rapidly, particularly in the mining, infrastructure, and real estate sectors (Batchimeg, 2021). The China-Mongolia-Russia Economic Corridor , launched in 2016 as part of the Belt and Road Initiative , has brought a new impetus to economic cooperation between China and Mongolia by aiming to enhance transport connectivity, trade facilitation, and industrial cooperation among the three countries (Dong et al., 2021).

Moreover, there are questions about the extent to which the benefits of the CMREC will be distributed equitably within Mongolia, given the concentration of industrial and logistics activities along the corridor (Dong et al., 2021), which may result in uneven regional development and socio-economic disparities, as well as potential environmental and social impacts that need to be carefully managed to ensure the sustainability and inclusiveness of the FEZ strategy

Year	**Milestone**
1995	Concept for establishing FEZs in Mongolia approved by Parliament
2002	Law on the legal status of the Altanbulag Free Trade Zone passed
2003-2012	Major infrastructure works completed with state budget financing (power supply, water and sewage, roads)
2014	Altanbulag FTZ officially launches operations

2015	Revised Law on Free Zones passed
2019	Trilateral memorandum of understanding signed with Manchuria China-Russia border trade zone and Russian Customs bonded zone
2021	Memorandum of understanding on FEZ cooperation signed with Turkey
2021-2025	Altanbulag FTZ included in government's five-year development guidelines, plans for 14.6 km paved road and logistics center

Table 4.5. Key milestones in the development of the Altanbulag Free Trade Zone

Source: «Altanbulag» Free Zone Administration (2022)

The Altanbulag Free Trade Zone The Altanbulag Free Trade Zone is one of Mongolia's flagship FEZ projects and a key node on the CMREC. Located in Selenge aimag on Mongolia's northern border with Russia, the AFTZ was established in 2014 with the aim of promoting trade, manufacturing, and logistics activities (Table 3). The zone covers an area of 500 hectares and offers investors a range of incentives, including tax exemptions, land lease discounts, and streamlined administrative procedures («Altanbulag» Free Zone Administration, 2022). Key product categories include machinery, electronics, textiles, and agricultural goods («Altanbulag» Free Zone Administration, 2022).

As of 2021, the AFTZ hosted 137 registered enterprises, of which 25 were engaged in trade and services and 43 had constructed facilities in the zone. Total investment in the AFTZ reached $79 million, with Chinese firms accounting for a significant share. Major Chinese investors in the zone include the state-owned China Railway Construction Corporation, which has established a logistics base, and private firms in the construction materials and light manufacturing sectors («Altanbulag» Free Zone Administration, 2022).

In terms of employment, the AFTZ administration reports that the zone has created over 1,400 jobs since its establishment, of which around 800 are permanent positions. While this represents a significant contribution to local employment, the job creation impact of the AFTZ has been somewhat lower than initially anticipated, due in part to the capital-intensive nature of many of the zone's activities (Batchimeg, 2021).

5.3.2 Key elements and operations

- Regulatory Framework and Governance:

  - The Altanbulag Free Trade Zone operates under the Law on Free Zones, passed in 2002 and revised in 2015. This legislation provides the legal foundation for the zone's operations, defining its status, management structure, and basic incentives.
  - The AFTZ is governed by a dedicated administration body, which reports directly to the Mongolian government. This structure allows for more efficient decision-making and policy implementation specific to the zone's needs.

- Fiscal Incentives and Tax Regime:

  - Corporate income tax exemptions are offered for the first five years of operation, followed by a 50% reduction for the subsequent three years. This graduated approach aims to attract initial investment while encouraging long-term commitment.
  - Exemptions from VAT and customs duties are provided on imported goods and equipment used within the zone. For example, machinery imported for manufacturing purposes is exempt from these taxes, reducing the initial capital investment required for businesses.
  - Land lease discounts of up to 100% are available for infrastructure and manufacturing projects, depending on their size and sector. This incentive is particularly attractive for large-scale projects that require significant land use.

- Administrative Streamlining:

  - A one-stop service center has been established within the AFTZ to handle various administrative procedures. This center consolidates services such as company registration, licensing, and customs clearance, significantly reducing the time and complexity involved in setting up and operating a business in the zone.

- Cross-border Cooperation:

    - In 2019, the AFTZ signed a trilateral memorandum of understanding with the Manchuria China-Russia border trade zone and a Russian Customs bonded zone. This agreement aims to facilitate smoother cross-border trade and cooperation among the three countries.

- Infrastructure Development:

    - Major infrastructure works, including power supply, water and sewage systems, and road construction, were completed between 2003 and 2012 using state budget financing. This initial investment in infrastructure was crucial for making the zone operational and attractive to investors.
    - As of 2021, plans were underway for the construction of a 14.6 km paved road and a logistics center, as outlined in the government's five-year development guidelines. These additions aim to further enhance the zone's connectivity and logistics capabilities.

- Investment Attraction:

    - As of 2021, the AFTZ hosted 137 registered enterprises, of which 25 were engaged in trade and services and 43 had constructed facilities in the zone. This diversity of businesses indicates the zone's appeal to various sectors.
    - Total investment in the AFTZ reached $79 million by 2021, with Chinese firms accounting for a significant share. Major Chinese investors include the state-owned China Railway Construction Corporation, which has established a logistics base in the zone.

- Employment Generation:

    - The AFTZ has created over 1,400 jobs since its establishment, with approximately 800 being permanent positions. While this represents a significant contribution to local employment, it has been noted that the job creation impact has been somewhat lower than initially anticipated, partly due to the capital-intensive nature of many of the zone's activities.

5.3.3 FDI attraction and economic impact

The AFTZ operates under a special legal and regulatory framework that offers investors a range of incentives and streamlined administrative procedures. Key elements of this framework include:

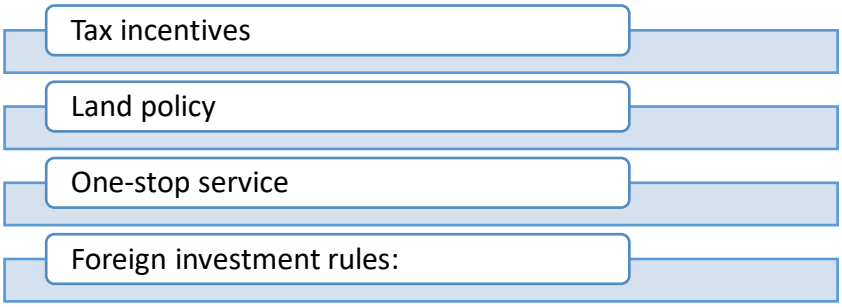


Fig. 4.2. Key elements

- Firms operating in the AFTZ are exempt from corporate income tax for the first five years of operation, followed by a 50% reduction for the subsequent three years. Exemptions from VAT, customs duties, and excise taxes on imported goods and equipment are also provided («Altanbulag» Free Zone Administration, 2022).
- The AFTZ offers discounted land lease rates to investors, with the possibility of long-term leases of up to 60 years. Land use discounts of up to 100% are available for infrastructure and manufacturing projects, depending on their size and sector (Government of Mongolia, 2015).
- The AFTZ has a dedicated one-stop service center that provides streamlined administrative procedures for investors, including company registration, licensing, and customs clearance. This has helped to reduce the time and cost of setting up and operating a business in the zone («Altanbulag» Free Zone Administration, 2022).
- The AFTZ offers a liberal foreign investment regime, with no restrictions on foreign ownership or repatriation of profits. However, firms operating in the zone are required to meet minimum investment thresholds and export targets in order to qualify for incentives (Government of Mongolia, 2015).

Country	2016	2017	2018	2019	2020	2021
China	*3.5*	*7.2*	*12.4*	15.8	18.3	22.1
Russia	0.8	1.2	1.8	2.3	2.7	3.2
Japan	*0.2*	*0.5*	*0.9*	1.3	1.6	2.0
South Korea	0.3	0.7	1.1	1.5	1.9	2.3
Other	*0.1*	*0.3*	*0.5*	0.7	0.9	1.1
Total	4.9	9.9	16.7	21.6	25.4	30.7

Table 4.6. FDI in the Altanbulag Free Trade Zone by country of origin, 2016-2021 (million USD)

The implementation of Free Economic Zones presents a complex interplay of opportunities and challenges in the context of China-Mongolia economic cooperation. Despite the establishment of various incentive mechanisms and preferential policies, the Altanbulag Free Trade Zone has encountered significant operational impediments that warrant careful examination. A particularly pressing concern has been the relatively elevated costs associated with essential utilities, specifically electricity and heating infrastructure, which has appreciably diminished the zone's competitive advantage vis-à-vis comparable facilities in China and Southeast Asian nations, where operational costs tend to be more favorable (Batchimeg, 2021). Furthermore, stakeholders have expressed substantial apprehension regarding the transparency and consistency of policy implementation mechanisms, particularly in relation to critical operational aspects such as land allocation protocols and customs procedures, which has potentially deterred prospective investors (International Monetary Fund, 2022).

In response to these multifaceted challenges, the AFTZ administration has undertaken comprehensive initiatives to enhance its institutional framework and operational capabilities. A significant milestone in this regard was achieved in 2021 through the establishment of a memorandum of understanding with Turkey, focusing on collaborative development and management of FEZs, thereby facilitating the exchange of technical expertise and best practices ("Altanbulag" Free Zone Administration, 2022). Additionally, the administration has implemented substantial improvements in its investment promotion infrastructure, including the development of a sophisticated online portal for investors and the establishment of a dedicated investor relations team, which represents a strategic move toward modernizing its operational framework.

5.4 Evaluation and lessons from the AFTZ experience

Mongolia economic cooperation, illuminating both the potential benefits and inherent challenges of utilizing FEZs as vehicles for economic development. The zone's strategic positioning along the China-Mongolia-Russia Economic Corridor , coupled with its proximity to crucial transportation infrastructure, has established it as an attractive destination for Chinese enterprises seeking to access Russian and European markets, thereby demonstrating the potential for Chinese investment to catalyze industrial development and employment generation in Mongolia. Despite offering an array of incentives and streamlined administrative procedures, the zone continues to grapple with fundamental challenges related to the cost and reliability of essential utilities, highlighting the need for comprehensive infrastructure development strategies. Moreover, there exists a pressing requirement for enhanced transparency and consistency in policy implementation, particularly concerning land allocation and customs procedures, which are crucial for maintaining investor confidence.

From a broader perspective, the AFTZ case exemplifies the necessity of adopting a balanced approach to China-Mongolia economic cooperation. While Chinese investment and trade flows can serve as powerful catalysts for industrial development and economic diversification in Mongolia, legitimate concerns exist regarding the potential for economic dependency and asymmetric distribution of benefits (Batchimeg, 2021). To ensure more equitable distribution of economic gains from FEZ cooperation, it is imperative to implement policies and institutional mechanisms that actively promote linkages between the zones and the broader economic ecosystem, while simultaneously supporting the development of local small and medium-sized enterprises through targeted interventions and capacity-building initiatives.

Based on the comprehensive evaluation of the Altanbulag Free Trade Zone (AFTZ) and its comparative analysis with other regional Free Economic Zones (FEZs), the following policy recommendations and future prospects are proposed to enhance the effectiveness of FEZs in fostering China-Mongolia economic cooperation:

1. Enhancement of Infrastructure Connectivity (6 points):

a) Modernization of Rail Infrastructure: Invest in upgrading the Trans-Mongolian Railway to increase capacity and reduce transit times. This could involve electrification of key sections, implementation of advanced signaling systems, and expansion of track capacity at bottlenecks.

b) Development of Multimodal Logistics Hubs: Establish state-of-the-art intermodal facilities at key nodes along the CMREC, integrating rail, road, and potentially air cargo capabilities. These hubs should incorporate advanced warehousing, cold chain facilities, and digital logistics management systems.

c) Enhancement of Last-Mile Connectivity: Improve road infrastructure connecting FEZs to major transport arteries and urban centers.

d) Digital Infrastructure Integration: Invest in high-speed broadband and 5G networks within FEZs to support the development of digital industries and enhance overall operational efficiency.

e) Energy Infrastructure Upgrade: Develop reliable and cost-effective energy supply systems for FEZs, potentially incorporating renewable energy sources to enhance sustainability and reduce operational costs.

f) Water and Waste Management Systems: Implement advanced water treatment and waste management facilities to support industrial activities while minimizing environmental impact.

2. Refinement of Policy Framework and Governance Structures (4 points):

a) Establishment of a Unified FEZ Regulatory Authority: Create a centralized agency responsible for overseeing all FEZs in Mongolia, ensuring policy coherence and streamlined decision-making processes.

b) Implementation of Performance-Based Incentives: Develop a more sophisticated incentive structure that links tax benefits and other concessions to specific performance metrics such as export volumes, local value addition, and employment generation.

c) Enhancement of Policy Transparency: Establish a comprehensive online portal providing real-time access to all relevant regulations, procedures, and policy changes affecting FEZ operations. Implement regular stakeholder consultations to ensure responsive policymaking.

d) Strengthening of Dispute Resolution Mechanisms: Establish specialized arbitration bodies within FEZs to efficiently handle commercial disputes, enhancing investor confidence and operational predictability.

3. Strategic Industry Targeting and Value Chain Integration (5 points):

a) Development of Industry-Specific Clusters: Identify and prioritize key industries aligned with Mongolia's comparative advantages and global market trends. For instance, focus on developing clusters in areas such as sustainable mining technologies, green energy solutions, and high-value agricultural processing.

b) Implementation of Targeted Investment Promotion Strategies: Develop sophisticated marketing and outreach programs tailored to specific industries and investor profiles. This could involve the establishment of industry-specific investment promotion teams and the organization of sector-focused investment forums.

c) Enhancement of Local Supplier Development Programs: Implement comprehensive initiatives to upgrade the capabilities of local SMEs, enabling them to integrate more effectively into the supply chains of FEZ-based enterprises. This could include technical assistance programs, quality certification support, and facilitated matchmaking events.

d) Promotion of Research and Development Activities: Establish dedicated R&D zones within FEZs, offering enhanced incentives for companies engaging in innovation activities. Facilitate partnerships between FEZ-based enterprises and Mongolian research institutions to foster knowledge transfer and technological upgrading.

e) Development of Export Support Services: Create specialized export facilitation centers within FEZs to provide market intelligence, certification assistance,

and logistical support for enterprises seeking to expand their international market presence.

4. Balancing Economic, Environmental, and Social Sustainability (3 points):

a) Integration of Circular Economy Principles: Develop eco-industrial parks within FEZs that promote resource efficiency, waste reduction, and industrial symbiosis. Implement incentives for companies adopting circular economy practices.

b) Enhancement of Environmental Monitoring and Compliance: Establish rigorous environmental impact assessment processes for FEZ projects and implement real-time environmental monitoring systems.

c) Promotion of Inclusive Growth: Implement targeted skills development programs for local communities, ensuring they can benefit from employment opportunities in FEZs. Develop social infrastructure within and around FEZs, including affordable housing, healthcare facilities, and educational institutions.

5. Strengthening Regional Cooperation and Integration (7 points):

a) Harmonization of Customs Procedures: Work towards the implementation of a unified customs regime along the CMREC, potentially through the establishment of joint customs control points and the adoption of harmonized documentation requirements.

b) Development of Cross-Border Economic Zones: Explore the establishment of joint special economic zones at key border crossings with China and Russia, allowing for seamless integration of production processes and logistics operations.

c) Enhancement of Labor Mobility: Negotiate agreements with China and Russia to facilitate the movement of skilled workers within the CMREC, potentially through the implementation of special visa categories for FEZ employees.

d) Promotion of Regional Value Chains: Identify and promote complementary industries across the CMREC countries, fostering the development of integrated

regional value chains. This could involve joint investment promotion activities and the establishment of trilateral industry working groups.

e) Coordination of Infrastructure Development: Establish a trilateral working group to coordinate infrastructure investments along the CMREC, ensuring seamless connectivity and avoiding duplication of efforts.

f) Joint Marketing and Branding Initiatives: Develop a unified branding strategy for the CMREC, promoting the corridor as an integrated economic region to global investors.

g) Facilitation of Cross-Border Financial Services: Work towards the establishment of cross-border financial mechanisms to support trade and investment flows within the CMREC, potentially including the development of special currency exchange arrangements or the establishment of a regional development bank.

The following projections aim to quantify the anticipated economic impacts and provide a basis for evaluating the efficacy of the proposed strategic interventions::

Year	**Total Investment (USD million)**	**Number of Registered Enterprises**	**Export Value (USD million)**	**Import Value (USD million)**	**Employment (Direct Jobs)**	**Tax Revenue (USD million)**	**Value Added as % of GDP**
2024	*120*	*165*	*45*	*55*	*2,000*	*7*	*0.8%*
2025	*150*	*185*	*65*	*70*	*2,400*	*9*	*1.0%*
2026	*200*	*210*	*90*	*85*	*3,000*	*12*	*1.3%*
2027	*260*	*240*	*120*	*100*	*3,800*	*16*	*1.6%*
2028	*340*	*275*	*160*	*120*	*4,800*	*22*	*2.0%*
2029	*430*	*315*	*210*	*145*	*6,000*	*30*	*2.5%*
2030	*550*	*360*	*280*	*175*	*7,500*	*40*	*3.1%*
2031	*700*	*410*	*360*	*210*	*9,200*	*52*	*3.8%*

2032	*880*	*465*	*460*	*250*	*11,000*	*68*	*4.6%*
2033	*1,100*	*525*	*580*	*300*	*13,000*	*88*	*5.5%*

Table 5.4. Projected Economic Indicators for the Altanbulag Free Trade Zone (2024-2033)

Source: Author's projections based on historical trends and assumed policy impacts

These projections assume successful implementation of the proposed policy recommendations and a favorable regional economic environment. Key assumptions include:

1. Enhanced infrastructure connectivity leading to improved logistics efficiency and reduced operational costs.
2. More effective investment promotion strategies resulting in accelerated FDI inflows.
3. Successful development of industry clusters and value chain integration, driving export growth.
4. Improved policy environment and governance structures enhancing overall investor confidence.
5. Strengthened regional cooperation facilitating cross-border trade and investment flows.

The projections suggest that with effective policy implementation, the AFTZ could potentially achieve significant growth in investment, exports, and employment generation over the next decade. However, it is important to note that these projections are subject to various external factors and uncertainties, including global economic conditions, geopolitical developments, and the pace of regional integration efforts.

In conclusion, the future prospects for the Altanbulag Free Trade Zone and similar FEZs in Mongolia are promising, provided that the government implements comprehensive and well-coordinated policies to address current challenges and leverage emerging opportunities. The success of these initiatives will depend on sustained political commitment, effective inter-ministerial coordi-

nation, and robust engagement with private sector stakeholders and international partners. By enhancing the effectiveness of its FEZs, Mongolia can strengthen its position within the China-Mongolia-Russia Economic Corridor and accelerate its economic development and diversification efforts.

6. Conclusions and discussion

This diploma thesis has undertaken a comprehensive and rigorous examination of the multifaceted evolution, current state, and future prospects of China's Free Economic Zones system, with particular emphasis on its pivotal role in fostering economic growth, attracting foreign direct investment, and promoting technological innovation. Through meticulous analysis, this research has elucidated the intricate interplay of economic, political, and social factors that have shaped China's FEZ strategy over the past four decades, tracing its trajectory from the early experimental Special Economic Zones in the 1980s to the recent development of sophisticated Free Trade Zones and cutting-edge innovation hubs.

The findings of this diploma thesis compellingly demonstrate that China's FEZ system has been a crucial driver of the country's remarkable economic transformation, serving as a powerful catalyst for industrial upgrading, export-oriented growth, and integration into global value chains. The resounding success of flagship zones such as the Shenzhen Special Economic Zone and the Shanghai Free Trade Zone underscores the immense potential of well-designed and effectively managed FEZs to stimulate local economic development, foster innovation ecosystems, and serve as laboratories for policy experimentation. However, this research has also brought to light the myriad challenges and limitations inherent in the FEZ model, including persistent issues of regional disparities, environmental sustainability concerns, and the imperative for continuous adaptation to the rapidly changing dynamics of the global economic landscape.

As China navigates its transition towards a more innovation-driven and sustainable growth model, the role of FEZs is undergoing a profound evolution. This

diploma thesis has identified several key trends that are reshaping the future trajectory of China's FEZ system, including: a heightened emphasis on promoting indigenous innovation and high-tech industries, reflecting China's ambition to move up the global value chain and reduce dependence on foreign technology; the strategic integration of FEZs into broader regional development initiatives, such as the Greater Bay Area and the Yangtze River Delta Economic Zone, aimed at fostering synergies and promoting coordinated economic growth across regions; an intensified focus on environmental sustainability and the circular economy, aligning with China's commitment to achieving carbon neutrality by 2060 and promoting green development; the progressive leveraging of digital technologies, including artificial intelligence, big data analytics, and the Internet of Things, to enhance FEZ competitiveness, operational efficiency, and attractiveness to high-tech industries; and a growing emphasis on the development of service-oriented FEZs, particularly in sectors such as finance, healthcare, and education, reflecting the changing structure of China's economy and global demand patterns.

The case study of the Altanbulag Free Trade Zone in Mongolia, meticulously analyzed within this diploma thesis, has provided invaluable insights into the potential for China's FEZ model to contribute to economic cooperation and development beyond its borders, particularly within the framework of the ambitious Belt and Road Initiative. This analysis has illuminated both the opportunities and challenges associated with the cross-border application of China's FEZ expertise, highlighting the complex interplay between economic interests, geopolitical considerations, and local development priorities. However, it has also underscored the inherent challenges of implementing FEZs in diverse economic and institutional contexts, emphasizing the critical need for tailored approaches that carefully consider and adapt to local conditions, cultural nuances, and specific development objectives.

Looking ahead, this diploma thesis posits that the continued success and relevance of China's FEZ system will hinge on its ability to effectively address several critical challenges, including: striking a delicate balance between attracting foreign investment and nurturing domestic innovation capabilities, ensuring that FEZs serve as catalysts for indigenous technological advancement rather than

perpetuating technological dependence; addressing the persistent issue of regional economic disparities by promoting a more equitable distribution of the benefits accruing from FEZ development across diverse geographical areas and social groups; skillfully navigating the increasingly complex global geopolitical landscape, particularly in light of rising tensions and potential decoupling pressures in key technology sectors, which may impact the international collaboration and knowledge transfer that have been crucial to FEZ success; adapting to the profound shifts in global value chains and production networks in the post-pandemic era, including trends towards regionalization and diversification of supply chains; enhancing the environmental sustainability of FEZs, not only in terms of reducing their ecological footprint but also in positioning them as hubs for green technology development and sustainable industrial practices; addressing labor market challenges, including the need for continuous workforce upskilling and reskilling to meet the evolving demands of high-tech and service-oriented industries within FEZs; and ensuring that the regulatory frameworks governing FEZs remain agile and responsive to technological advancements and changing business models, while maintaining necessary oversight and preventing potential abuses.

In conclusion, this diploma thesis asserts that while China's FEZ system has indisputably played a pivotal role in the country's economic development over the past four decades, its future effectiveness and relevance will depend critically on the ability of policymakers to adapt and evolve the FEZ model to meet the complex and multifaceted challenges of the 21st century global economy. This will necessitate a nuanced, flexible, and forward-looking approach that carefully balances the imperative for continued openness and international engagement with the strategic priorities of fostering indigenous innovation, promoting sustainable development, and ensuring inclusive economic growth.

The findings of this diploma thesis open up several promising avenues for future scholarly inquiry, including exploration of the potential of FEZs to serve as platforms for addressing pressing global challenges such as climate change mitigation, technological disruption, and inclusive economic development; comparative studies examining the transferability and adaptability of China's FEZ model to other developing countries, particularly within the context of South-South co-

operation; investigation into the social and cultural impacts of FEZs, examining how these zones influence local communities, labor relations, and patterns of urbanization; and analysis of the long-term sustainability of the FEZ model, both in economic and environmental terms, particularly as China and other countries grapple with the challenges of climate change and resource depletion.

In conducting this diploma thesis, artificial intelligence was judiciously utilized for generating and editing diagrams, as well as for producing programming code to create sophisticated visual representations of complex data sets. This application of AI technology significantly enhanced the analytical capabilities and visual presentation of the study's findings, allowing for more nuanced insights and clearer communication of results. The integration of AI tools in this research process not only improved efficiency but also opened up new possibilities for data analysis and visualization, pointing towards the potential for further integration of AI in academic research methodologies.

This diploma thesis contributes to the growing body of literature on special economic zones and their role in economic development, offering a comprehensive and up-to-date analysis of China's experience. By critically examining the successes, challenges, and future prospects of China's FEZ system, this research provides valuable insights for policymakers, scholars, and practitioners engaged in economic development strategies, international trade, and regional integration initiatives. As the global economy continues to evolve in the face of technological disruption, geopolitical shifts, and environmental imperatives, the lessons drawn from China's FEZ experience, as elucidated in this diploma thesis, will undoubtedly remain relevant and instructive for years to come.

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Appendices

Appendix 1: Survey Evaluation Factors

Section	Factors to Rate (scale 1-5)
Reasons for Investment	- Tax incentives and exemptions - Streamlined administrative procedures - Infrastructure and utilities - Access to domestic market - Access to international markets - Availability of skilled labor - Presence of suppliers and business partners
Impact on Business	- Increase in exports - Increase in sales - Increase in employment - Increase in R&D and innovation - Improvement in profitability - Improvement in competitiveness
Challenges and Obstacles	- Inconsistent or unclear regulations - Lack of transparency in policy

Appendix 2.1: Major Types of FEZs in China

Zone Type	Location Examples
Special Economic Zones	- Shenzhen SEZ (Guangdong Province) - Zhuhai SEZ (Guangdong Province) - Shantou SEZ (Guangdong Province) - Xiamen SEZ (Fujian Province) - Hainan SEZ (Hainan Province)
Economic and Technological Development Zones	- Dalian ETDZ (Liaoning Province) - Tianjin ETDZ (Tianjin Municipality) - Yantai ETDZ (Shandong Province) - Qingdao ETDZ (Shandong Province) - Guangzhou ETDZ (Guangdong Province)
High-Tech Industrial Development Zones	- Zhongguancun Science Park (Beijing Municipality) - Shanghai Zhangjiang Hi-Tech Park (Shanghai Municipality) - Shenzhen High-Tech Industrial Park (Guangdong Province) - Suzhou Industrial Park (Jiangsu Province) - Xi'an High-Tech Industries Development Zone (Shaanxi Province)
Free Trade Zones	- China (Shanghai) Pilot Free Trade Zone - China (Guangdong) Pilot Free Trade Zone - China (Tianjin) Pilot Free Trade Zone - China (Fujian) Pilot Free Trade Zone - China (Liaoning) Pilot Free Trade Zone
Export Processing Zones	- Kunshan Export Processing Zone (Jiangsu Prov nce) - Songjiang Export Processing Zone (Shanghai Municipality) - Jiangyin Export Processing Zone (Jiangsu Province) - Ningbo Export Processing Zone (Zhejiang Province) - Zhangjiagang Export Processing Zone (Jiangsu Province)

Appendix 2.2: Key Milestones in FEZ Development

Year	Event
1980	Regulations on Special Economic Zones in Guangdong Province issued
1984	14 coastal cities opened to foreign investment
1986	Provisions on the Encouragement of Foreign Investment promulgated
1990	Pudong New Area in Shanghai established
1995	Interim Provisions on Guiding Foreign Investment Direction issued
2001	China's accession to the World Trade Organization
2006	Provisional Regulations on the Establishment of Bonded Areas issued
2013	Shanghai Pilot Free Trade Zone established
2015	Three new FTZs approved in Guangdong, Tianjin, and Fujian
2019	Foreign Investment Law passed
2020	Hainan Free Trade Port masterplan released